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# Food, energy, and population : are they "world" problems? : an analysis of policy responses in Brazil, Tanzania, the United States, and Yugoslavia.

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FOOD, ENERGY, AND POPULATION: ARE THEY "WORLD" PROBLEMS?  
AN ANALYSIS OF POLICY RESPONSES IN  
BRAZIL, TANZANIA, THE UNITED STATES, AND YUGOSLAVIA

A Dissertation Presented

By

WILLIAM THOMAS HILL

Submitted to the Graduate School of the  
University of Massachusetts in partial fulfillment  
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

February 1980

Political Science Department

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To Elaine  
with whom I am as one

## PREFACE

This study has grown out of a vague sense of unease which I have about the kind of understanding which has gained wide popularity among professional observers and analysts of our current "world" or "global" issues. It is a kind of understanding which often presents itself as non-political or a-political in character, and professes to be only concerned with the scientific, factual aspects of these issues. I would argue that such a position is untenable and, if held to, can lead to a serious misunderstanding of the nature of these issues. The discussion and analysis of any of these issues must deal with profound and contestable political issues which, thus far, have received short shrift. This study attempts to give fuller consideration to the political aspects of these issues at one level and seeks to contribute to their more comprehensive understanding--a necessary step, I would suggest, to their ultimate resolution.

No intellectual endeavor is ever solely the product of one's own individual efforts. This study is no exception and carries the influence of many whom I have come in contact with during my academic career. I owe special thanks in this case to my committee, however, especially to Howard Wiarda, who has provided an invaluable blend of incentive, support, and critique to my current research. I am also deeply indebted to Ken Dolbeare, whose influence I cannot adequately

express in words, and Fred VanDerbeck, who has remained a unique and constant source of intellectual stimulation.

I would also like to acknowledge the contributions of Phyllis, Peter, and Katy, who showed what true friends are like during the preparation of this manuscript.

Finally, I thank Elaine, without whom, quite simply, this work would never have been done.



## ABSTRACT

Food, Energy, and Population: Are They "World" Problems?  
An Analysis of Policy Responses In  
Brazil, Tanzania, the United States, and Yugoslavia

February 1980

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This study is a comparative analysis of the policy responses of four developmentally diverse nations in the areas of food, energy, and population--three issues which have gained wide popular currency as "global" or "world" problems over the past decade. This analysis involves both a challenge to much of the standard opinion on these issues, which promotes a "crisis" mentality and approach, and an investigation into some of the major underlying assumptions which the popular crisis terminology implies. The major purpose of this study is to assess the accuracy, relevance, and acceptance of the global "crisis" perspective on these issues at the nation-state level--where comparatively little attention has been focused--and to judge whether referring to these issues as "world" problems helps or hinders our ability to adequately understand their source and nature.

The research method employed in this project is an application of policy output analysis to a cross-national setting. An account of

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the current national and international policies of Brazil, Tanzania, the United States, and Yugoslavia in the three issue areas under consideration is presented with emphasis placed on an explication of their publicly stated goals and contents, which are taken to represent the primary manifestation of each government's understanding and treatment of these issues. In addition, each policy is placed in context with the other major policy programs of each government, to indicate the level of priority which they receive and to reveal whether their thrust is directed at the domestic or international level.

Based upon a subsequent comparison and evaluation, the major findings indicate that in these four cases national self-interest remains the primary factor determining each state's response to these so-called "global" issues. Therefore, based upon our observations it is clear that these issues are being treated not unlike standard international issues where parochial nation-state perceptions rule the selection of the policy approach adopted. Thus, it is concluded that the "global" perspective, which bases its appeal largely upon ecological evidence, displays fundamental defects when applied within the context of the political realities of the contemporary international system.

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## CHAPTER I

### THE WORLD CRISES: SOME UNASKED QUESTIONS

#### Introduction

An era of world crises, it appears, is upon us. It seems that wherever one looks--in the mass media, scholarly journals, or even in our everyday contact with others--the topic of our "global" problems has become an area of growing concern. Currently, most of the discussions, explanations, interpretations, and prescriptions being proposed are focused on the triad of the world's energy, food, and population situations.

When one examines the standard opinions expressed on these topics it is apparent that most often the authors are preoccupied in their analyses with three overriding interests--albeit with a widely varying degree of concern for each. A primary goal is to convince the audience of the severity of the situation and to illustrate in as stark a manner as possible that the problem does exhibit the necessary attributes to merit the "crisis" label.<sup>1</sup> To lend support to the validity of this first argument a second interest is to provide a convincing account of how and why the situation has reached its present precarious state. This part of the explanation is usually accompanied by the presentation of any number of graphs and growth curves (the "hard" data supplied endlessly by those numerous agencies whose sole function appears to be to gather it) in the apparent belief

that it is more believable to us if we see energy consumption and population going up, as well as be told that it is so. Finally, these analyses usually conclude with the requisite projection of the future which, more often than not, is said to look worse unless significant changes occur. This is then followed by the almost obligatory proposal of various plans to alleviate or eliminate the "crisis", accompanied by an enumeration of the hard decisions necessary to achieve these ends.<sup>2</sup>

In comparison to those aspects just mentioned, relatively scant attention has been devoted to a different category of questions which move toward a more critical inquiry into and analysis of the actual scope and impact of these so-called "world" problems and, of the implications of adopting a global perspective on these issues. From our perspective--which is grounded in a skeptical view of the bases upon which these situations are judged (or presumed) to be of international and global proportions, impact, and consequences--questions of a different character should also arise around these topics.<sup>3</sup> One of the leading questions, for example, involves whose perceptual spectacles we don when we perceive a "world" food, population, or energy crisis and how we then proceed to define the parameters of such "world" issues. Are we again dealing with a situation similar to that which arose in developmental circles in the 1960s, when most definitions of "development" were the product of well-worn ethnocentric bias grounded in the Western industrial experience? Or, does this triad of issues have characteristics which set them apart from standard international issues whose understanding is normally ruled by

each nation's socio-economic and political system?

If we listen to some of the most prominent and influential food, population, and energy experts it would appear that the latter is the case. Consider, for example, Georg Borgstrom's characterization of the food problem:

The widening hunger gap is an ominous feature of our days and one which poses the greatest challenge mankind has ever faced, overshadowing atom bombs, continental missiles, microbial toxins and nerve gas.<sup>4</sup>

or, in a similar vein, Paul Ehrlich's and Lester Brown's statements on the status of the population issue. As long ago as the late 1960s Ehrlich stated, "Overpopulation is now the dominant problem in all our personal, national, and international planning.", and he concluded that it constituted ". . . mankind's most pressing problem."<sup>5</sup> Such a position received equal support from Brown in a later work in which he declared:

Rapidly accumulating evidence suggests that the threat to man's future security and well-being are not so much the traditional ones of international conflict and invasion by a foreign power but, rather, emerging economic and ecological instability. Continued population growth may endanger man's future even more than nuclear war--suggesting the need for a massive commitment of resources to move the world away from its present demographic path.<sup>6</sup>

These kind of statements have also been increasingly echoed by groups and individuals who hold positions of world consequence. In the late 1960s, for example, the long awaited Pearson Commission report on future international development in referring to world population said, "No other phenomenon casts a darker shadow over the prospects for international development than the staggering growth of population."<sup>7</sup> More recently, Robert McNamara, who has headed the



World Bank for the last nine years, declared on the population issue that, "Short of thermonuclear war itself, it [population] is the gravest issue the world faces over the decades immediately ahead."<sup>8</sup>

Such characterizations have also been more frequently applied to the energy issue in recent years as well. In his initial address on energy to the nation in 1977, President Carter declared, "With the exception of preventing war, this is the greatest challenge our country will face in our lifetime."<sup>9</sup> The gravity of the issue purportedly derives from its world consequences as well. The energy issue has been increasingly tied to the onset of world recession and (possibly) depression and, in the words of Richard N. Cooper, Undersecretary of State for Economic Affairs, ". . . energy problems will be a major consideration facing the world's economies in the coming years."<sup>10</sup>

The real problem, however, is what these observations leave out. More attention needs to be focused on the assumptions--which seem most often to go unarticulated and unexamined--that are tacitly made by those who speak of these issues as having a global/international order. Is the ecological reality of energy resource shortage, to take one example, being applied to the international political reality without sufficient reflection upon what is entailed in such a transference? Or, put more bluntly, is the presentation of ecologically based arguments concerning energy resource shortage, food scarcity, and overpopulation assumed to apply with equal force to the political realm of national and international politics as well?<sup>11</sup>

Whatever the case may be, more surely needs to be said about

whether approaching these problems from a global perspective contributes to a better understanding of their source and nature, and thus of the type of strategies necessary to effectively confront them. Perhaps the global level perspective exhibits its own brand of myopia, by oversimplifying their status as widely recognized "world problems", and thus avoiding serious consideration of many important international political factors--not the least of which is the continued pre-eminence of the nation-state--which is necessary to an adequate understanding of the situation.

It is to this category of questions which this study intends to address itself. In the works cited thus far and in the large majority of others in this area there is a large void created by a lack of attention to what is being done by individual governments in their everyday policy activities in the food, energy, and population area. Instead, as we have attempted to indicate above, most attention is devoted to analyses at the global level. Consequently, proposals concerning what needs to be done are all too often directed at the necessity for the "global community" to act and/or call for the creation of a "global conscience", with little explanation of what is implied by invoking these concepts or how they could come into being.<sup>12</sup> Thus an air of political unreality and naivete usually surrounds these proposed solutions and the biases and limitations of the macro-level approach which produces them rarely comes under close critical scrutiny, leaving largely unanswered the question of what the global level of analysis leaves out.<sup>13</sup>

This research endeavor tries to begin to fill a part of that

void. The primary focus of the analysis will be on the policy outputs of the governments of four nations in the food, energy, and population areas. By concentrating on the national policy level we hope to explore, in one manner, how accurate a picture the "world crisis" perspective portrays of the status of these issues at the national and, to some extent, the international level. In looking at the policy behavior of individual governments this study will assess the "crisis perspective" along a dimension which is different from that usually employed by those who present argumentation for the ecologically-based point of view. The emphasis here will be on the evidence presented by the political rather than the ecological realm. Thus it is an effort to determine if the degree and character of political awareness found on the national level supports the view that these issues are held to be of crucial importance.

We believe that an approach on this level is necessary because too often the accounts of our "world crises" either tend to overwhelm us with their pessimism--since much of what is proposed as remedies involves a transcendence of standard nation-state identities and boundaries--or attempt to anesthetize us to the seriousness of the situation with their optimism.<sup>14</sup> Either way, they leave little room for persons to take effective action concerning these "global" problems in their everyday lives, preferring, more often than not, to leave the hard decisions for the future to the existing powers that be in the current national and international power structure.<sup>15</sup>

Therefore, we believe that an investigation of policies at the national level--among a diverse selection of nations--to determine if

there is any degree of common recognition, understanding, and treatment of these issues (or even if they are "issues")--is a viable and valuable method for measuring the acceptance and relevance of the "crisis" view in the international realm. It must be made clear, however, that our intention is not so much to attempt to undercut the validity of the ecological evidence which has been presented to support this view, but rather to challenge its unreflective and somewhat promiscuous extension into the international political realm. The ultimate goal is to try to clarify the utility which the global perspective has when extended into the political realm and to assess how widely its precepts have been accepted among the four selected nation-states whose policies will be explored. All of this will be done while keeping in mind what our results imply for our thought and action, especially for those of us seeking to understand and affect the situation in our everyday lives.

### Method of Analysis

We have chosen to explore the questions which have just been posed through a comparative analysis of the policy responses in these issue areas in four ideologically and developmentally diverse nations. The rationale for dealing with the food, population, and energy areas will, perhaps, be more evident than that which underlies the choice of the four particular nations, but it is necessary to add a few words of explanation on each point.

In regard to the policy areas, anyone familiar with these issues will realize that policies concerning food, energy and population



are closely related and any serious attempt to investigate one thoroughly would entail dealing with the others. The connection between the food and population issues is rather obvious, with stabilization of the latter being persistently advocated as a major means of improving the critical state of the world's food supply and demand. At the same time the connections between the food and energy issues are quite crucial, and becoming more so, since the most popular means advocated for increasing the world's food supply are increasingly dependent on energy intensive methods of cultivation (i.e. fertilization and mechanization are the two most frequently mentioned). Thus a country's policy stance on any one of these issues is oft-times related to its position on the others. In addition, it also so happens that the "crisis view" with which I am concerned is most often associated with analyses of the world situation in these particular issue areas.<sup>16</sup>

The reasons for the selection of the four particular nations (Brazil, Tanzania, the United States, and Yugoslavia) whose policies will be explored involve a more detailed explanation. Initially it should be understood that there were no pretensions at being "scientific" in the method of selecting these four particular nations. We are not suggesting that they are adequate representatives of other advanced industrial or Third World countries. Rather, they were chosen for certain attributes they possess as nation-state systems which were considered important in view of the purposes of this study. Primarily this combination was chosen because, as a group, they manifest striking socio-political and developmental differences,

for it was intended that their diversities be a major consideration.

We believe that an investigation of a selection of nations who exhibit significant differences in ideology, the structure of their social and political institutions, and in the character of their economic systems is frankly a better test of the acceptance and relevance of the "crisis" interpretation which is being addressed, than one which included countries broadly similar in these categories. One could argue for example that the energy issue's relevancy is a function of a state's industrial level: the more industrialized it is, the greater is its energy consumption, thus the more important a world energy shortage would become to it. Or, as it is more popularly proposed, it could be argued that population growth is a function of a nation's developmental level: the argument being that as economic and social amenities are more widely dispersed population growth as an issue tends to de-fuse itself.<sup>17</sup> In the process of selecting this group of nations we consciously sought to sidestep these kind of arguments by covering as wide a spectrum as possible in the areas of relevant socio-economic and developmental characteristics, and, to so present these disparities as to be recognizable along any proposed developmental scale.

When viewed from another angle a primary intention of these choices was to achieve a wide variation among those characteristics historically employed in comparative studies as tools crucial to the determination of a nation's developmental status (e.g. gross national product, level of industrialization, and extent of the agricultural sector are three of the more popular of these measures that come to

mind) and further, to pose the ideological and institutional differences as clearly as possible. In doing so we are accentuating those "variables" which have traditionally been viewed as performing a major role in explaining a government's policy stance and which could, hypothetically, do likewise in those policy areas with which this study is concerned.<sup>18</sup>

To summarize, our approach in choosing these four countries was aimed at achieving diversity rather than homogeneity and was governed by two underlying premises which we believe will give greater impact to our findings. The first is that the above mentioned factors, among many, seem, based on past experience, to be the most likely to contribute to and/or help explain the policy differences which might be observed in the analysis; consequently, every effort has been made to give them a priority role which will make their effects clearly attributable, if such are observed. Secondly, we would suggest that any position which maintains that these issues are of a "global" magnitude unlike standard international issues would gain more credibility if significant similarities in understanding and treatment of these issues is revealed among a group of nations as fundamentally diverse as these. In fact it is most assuredly those differences among nations which we have emphasized here that must be transcended and/or accounted for if the "crises" view is to be judged accurate in its depiction of the international awareness and level of activity being undertaken in these issue areas.

The body of this study will be presented in two sections. The first part will present a description of the most recent policies

implemented in the three selected areas by each respective nation. Initially, each country is discussed separately. In these individual treatments emphasis will be placed on an account of the goals and contents of the current policies. It is expected that there will be only peripheral concern with the "process" aspect of the policy's formulation, reference being made to its role only when its influence over the policy outcome is judged to be crucial to a full and accurate assessment of its character. A determination of the dominant factors and interests which affected the policy's conception is included as well, when necessary to presenting an adequate analysis.<sup>19</sup>

Attention is also given to placing each policy in perspective in relation to the remainder of each government's other major policy concerns, with specific reference (when necessary) to whether these policies are given priority over others (e.g. larger expenditures, administrative effort, publicity, etc.), the presumption being that these factors help to reflect the importance which is attached to any particular policy. In the same context an effort is made to determine the primary orientation of the policy response cast in terms of the national/international split, to determine if the policy represents a consciousness of the issue as being critical domestically, internationally, or both.

By taking into account all of these factors our analysis seeks to evaluate the overall character of each policy and judge it as a response to supposed "world crisis" conditions. There are a number of questions which will be addressed to present an adequate evaluation in this regard. Among them are: does the policy, as nearly as can

be determined, appear to represent a national viewpoint and initiative, as opposed to one which appears to take more cognizance of the priorities of the global "crises" perspective? Is it a policy which seems attuned only to national priorities, such as developmental goals, and the expressed needs and goals of the government? Or, on the other hand, does the policy seem to be more a response that should be understood with reference to international contingencies and pressures (e.g. to acquire or retain allies and aid--much like the paper "land reforms" which were formulated in some Latin American countries under the Alliance for Progress in the 1960s), with, accordingly, little relation to the national context? Finally, is the national attitude and posture significantly different from the international position where, for instance, less energy and active commitment may be required to advocate a position than domestically, where policies need to be funded, administered, and produce results--and, therefore, may involve more serious political risks and challenges.<sup>20</sup> Such observed differences between the two spheres would appear to have important implications for trying to understand how different policy contexts affect the perceptions of these so-called "crisis" issues.

After a presentation of the policy materials through a case-study of each nation our attention turns to a comparison and evaluation of the findings. The key similarities which have been noted among policies will be outlined and juxtaposed against the important differences which have been observed. We will then weigh the similarities and differences against each other and judge which



aspects have emerged as the most important to an assessment of the status of the food, energy, and population situations as "world" problems or crises. We will make some reference to whether our investigation indicates that the traditional standard variables of ideological, institutional, and socio-cultural differences constitute the crucial factors in understanding each nations policy responses, to these issues, and what this then indicates about the accuracy and acceptance of the world "crises" view in these four nation-states.

We will then finally turn to an interpretation of our findings and an assessment of how well we have addressed our initial queries concerning the world "crises" perspective. This will involve an evaluation of what our observations have indicated about the strengths and weaknesses of adopting a "global" perspective on these issues, as well as a critical evaluation of the policy "output" approach which is utilized in this study, and a proper recognition of the strengths and limitations of the kind of data which it produces.



## CHAPTER II

### THE "ISSUES" OF FOOD, POPULATION AND ENERGY IN TANZANIA

#### Introduction

The United Republic of Tanzania has been an independent African state since 1961 when British trusteeship was peacefully ended. The country has been known as Tanzania since 1964 when a political union was established between Tanganyika and the newly independent island of Zanzibar, which is located off the coast of the mainland. Tanzania has not been presented with serious problems of tribalism, nor has the military exercised any significant political influence--as has been the case in a number of neighboring African states. The governmental structure has remained remarkably stable during the period of independence.

Politically, the country considers itself to be a socialist, democratic one-party state--which was formally established in 1965--with the party, the Tanganyika African National Union (TANU), being seen as coterminous with the nation.<sup>1</sup> This political system has been generally accepted and has functioned well with the periodic elections being notable for the significant turnover in office-holders which has occurred at both the local and national level. A major alteration in the government power structure was undertaken in 1972 when a policy of de-centralization was implemented to combat the

increasing concentration of effective power at the higher levels. The ultimate purpose was to further democratize the bottom-up participation in the system by dispersing some control over developmental projects and activities down to the regional, district, and village levels.<sup>2</sup>

The country's bellwether has been Julius Nyerere who led the independence movement and has, with the exception of one year when he voluntarily stepped down, been the President of the Republic since 1961. In his speeches and writings one finds the most articulate presentation of his country's developmental strategy, priorities, and goals.<sup>3</sup> His initiatives have been the central factor in determining the direction of Tanzania's developmental efforts.

During the period under consideration in this chapter Tanzania's development policy has been oriented around the ideology of African socialism and the principle of "self-reliance". The government has attempted to follow an autonomous development policy which was initially premised on an explicit rejection of the Western capitalist advanced industrial model as one unsuited to the African context.<sup>4</sup> The emphasis in development policy has been placed on social and political development and the equalization of the basic material conditions of the people, as opposed to any exclusive concern with economic growth as the priority.<sup>5</sup> The ideology of African socialism, which according to Nyerere has its roots in the traditional African extended family structure, informs this effort and presents society with its ultimate goals:

By building on principles of the traditional extended

family system, with its emphasis on co-operation and mutual respect and responsibility, a society will be built in which all members have equal rights and equal opportunities, where there is no exploitation of man by man, and where all have a gradually increasing level of material welfare before any individual lives in luxury.<sup>6</sup>

The role of the government in society's pursuit of these goals is central. All important sectors of the economy are either in government hands or are subject to majority control by the government. The private sector is not relied upon to provide the main thrust in productive investments for development. The government's guiding principle in the economic sphere is to promote ". . . the development of forms of economic activity which encourage collective and co-operative efforts and avoid wide differences of wealth and income."<sup>7</sup>

While the ideology of African socialism has been employed to provide the theoretical justification for Tanzania's developmental path, the principle of "self-reliance"--premised on a clear recognition of Tanzania's position as a "less-developed" country in the world system--has been used most often to guide her relations with foreign states. The concept of "self-reliance" referred primarily to the government's perception of the role which foreign aid and investment was to play in the country's development.

We have firmly rejected the proposition that without foreign aid we cannot develop. We should never depend on overseas aid to the extent of bending our political, economic, and social policies in the hope of getting it.<sup>8</sup>

The degree of "self-reliance" which the government has sought and been able to sustain, however, has varied considerably. Their determination to have a degree of control over external aid and

investment not normally granted cost them significant financial losses in the 1960s, mostly in the area of private investments. But since the early 1970s the economic problems of the country (discussed below) have precipitated a major change in attitude toward foreign aid and investment, whose role has greatly increased (see Table 1).

TABLE 1

GRANTS AND LOANS RECEIVED, 1970-1976  
(millions of Tanzanian shillings)

Year	Foreign Grants	External Loans	Year	Foreign Grants	External Loans
1970	0.4	121.5	1974	214.4	466.9
1971	0.1	269.7	1975	408.0	783.0
1972	37.8	347.4	1976	717.2	1250.6
1973	62.4	455.9			

SOURCE: United Nations, Statistical Yearbook, 1976.  
New York: 1977.

The government's present attitude toward foreign investment is illustrated in a statement by the Minister of Natural Resources and Tourism, which recently appeared in the Wall Street Journal. "The only thing we insist on is retaining control. We want 51%, but how you use your profit or what you do with it is your business. We've got nothing against capitalist partners."<sup>9</sup> Indeed the shift has been dramatic. The current Five Year Development Plan (1977-1982) proposes to receive 50% of its investment funding from external sources and Tanzania has, according to one source, recently become

one of the world's largest per capita recipients of aid: receiving \$300 million in 1977, which constituted 80% of the government's non-military development budget.<sup>10</sup> Thus in recent years the principle of "self-reliance" has receded in importance and no longer represents an accurate depiction of Tanzania's external relationships.

The following sections will present a general overview of the food, population, and energy situations in Tanzania and will review the important developments which have occurred in these areas over roughly the last decade, when the development priorities just outlined informed much of the government's domestic policies. This account will provide the historical background for an examination of the current state of the government's policies in these areas and of the major factors which have influenced their formulation and implementation. The primary purpose at this stage is to characterize the government's "perception" of these issues by drawing upon the policy responses as the primary representation of the government's understanding and treatment of these issues.

### Food

An overview. In spite of its relative economic poverty, maintaining an adequate supply of basic food crops was not a severe problem for Tanzania prior to the late 1960s.<sup>11</sup> The state of the food situation was reflected by a comment in a 1968 government publication which proudly pointed out that Tanzania was the only country in Africa to maintain a growth trend in food production higher than its population growth rate during the 1955-1966 period.<sup>12</sup> While this did not imply

that Tanzania was self-sufficient in providing the basic food crops for its domestic consumption, it did indicate that dependence on food imports and external food aid was not crucial to meeting the country's food needs.

By the late 1960s, however, the food situation had begun to seriously deteriorate and attention to the nation's "alarming increase" in food imports became one of the government's chief concerns. The onset of the 1970s, which brought significant changes in the world food pricing and marketing system, saw Tanzania's food situation grow markedly worse and food import costs became a serious financial drain on the country. The "food problem" was now a major domestic issue and self-sufficiency in the basic food crops emerged in government policy pronouncements as a cornerstone of its development strategy.

In the last decade the performance of the food producing sector of Tanzanian agriculture has been characterized by wide variations in the yearly production levels of its staple crops. Domestic production has persistently failed to meet a growing demand and, as a consequence, the dependence on food imports to meet essential needs has increased considerably (see Tables 2 and 3). The poor performance of the food sector in this period has had major ramifications for the country, contributing to a steadily deteriorating balance of trade and a large reduction in the country's foreign exchange reserves since 1967. Its decline has led to increasing restrictions on the government's ability to pursue its overall developmental goals.

Food policy in the 1960s. Self-sufficiency in the basic food crops for



TABLE 2  
 PRODUCTION OF MAJOR FOOD CROPS, 1967-1978  
 (thousand metric tons)

Year	Maize	Rice	Wheat	Total
1967	549	114	31	694
1968	664	136	44	844
1969	525	144	39	708
1970	767	184	71	1022
1971	730	193	84	1007
1972	881	171	98	1150
1973	603	204	78	885
1974	1446	293	46	1785
1975	825	150	46	1021
1976	897	172	58	1127
1977	968	194	71	1233
1978*	1000	260	65	1325

SOURCE: United Nations, Statistical Yearbook for 1971, 1974, 1976, and 1978.  
 New York: 1972, 1975, 1977, and 1979.

\*United Nations, Food and Agricultural Organization estimate.

TABLE 3  
IMPORTS OF MAJOR FOOD CROPS, 1967-1976  
(thousand metric tons)

Year	Maize	Rice	Wheat	Total
1967	4	12	38	54
1968	8	15	36	59
1969	23	9	5	37
1970	-	4	2	6
1971	92	93	24	209
1972	79	62	21	161
1973	187	60	7	254
1974	247	71	106	424
1975	233	64	159	456
1976	73	9	16	98

SOURCES: For 1966-1970, Gabriel Ruhumbika, ed. Towards Ujamaa. Dar es Salaam: East African Literature Bureau, 1974, p. 93. For 1971 on, United Nations, Trade Yearbook, annual. Rome: UNFAO; and Bank of Tanzania. Economic Bulletin, July 1975.

subsistence--maize, rice, and wheat--has purportedly been a goal of the Tanzanian government since independence.<sup>13</sup> This general goal has received prominent mention in all four of the development plans which have been enacted since 1961. But while the goal of increased food crop production has remained a constant, the strategy for achieving this end has undergone significant modifications as the government's understanding of the "food problem" has changed.

The policy toward the agricultural sector as a whole--which represents approximately 40% of the Gross Domestic Product--has always viewed increased production as a goal requiring a multi-faceted approach which addresses political, economic, social, and technological factors. The effort to improve the agricultural sector's performance was not perceived simplistically as just a question of applying the proper modern technology (e.g. tractors, fertilizer, and hybrid seeds) in the appropriate amounts. Rather the first essential step which the government proposed in this area, the "villagization" program, involved a fundamental alteration in the living arrangements of the vast majority of the rural population--a segment which has constituted over ninety percent of the total population throughout the period of independence.

The "villagization" policy was first proposed and explicated by President Nyerere in his 1962 inaugural address:

. . . it is ridiculous to concentrate on agriculture if we are not going to make any change in our old method of cultivation and our old ways of living. If we want to develop, we have no choice but to bring both our way of living and our way of farming up to date.  
 . The first and absolutely essential thing to do therefore if we want to be able to start using tractors for

cultivation, is to begin living in proper villages.<sup>14</sup>

In a further elaboration of the policy Nyerere acknowledged the difficulties of implementing such a policy which, in effect, proposed large scale social changes as only an initial necessary step in its program for attaining the agricultural sector's productive potential:

Our agricultural methods have been part of a total culture, and change in the tools we use, the introduction of irrigation, even the introduction of hybrid seeds, affects such things as the interdependence of the family, the tribal social security arrangements, or inheritance practices.<sup>15</sup>

Not surprisingly the program was noted more for its failures than its successes in the following years, but the emphasis on villagization as the main thrust in agricultural policy was sustained under the first Five Year Plan when its goals were actually broadened.

Although long-maturing, the settlement schemes bring about a relatively abrupt transition of the people concerned to modern techniques with regard to land use, land tenure and patterns of agricultural production, and economic attitude. They will also be relied upon in the future to relieve incipient land hunger and population pressure in certain areas.<sup>16</sup>

Increased agricultural production remained the primary goal of the program, but the increased hopes expressed by the government foreshadowed a growing interest in the non-economic aspects of successful villagization.

The first two Development Plans also sought more short-term payoffs in increased production in the agricultural sector, particularly after the initial enthusiasm wore off and successful villagization was seen to be years away. The first three year Development

Plan (1961-1964), for example, concentrated almost exclusively on the agricultural area when proposing the government's primary developmental goals for the three year period. It hoped to achieve an improved agricultural performance by encouraging small-scale farmers, who are the backbone of Tanzania's agriculture, to significantly increase their production and become more integrated into the cash economy.<sup>17</sup> This policy was largely continued under the First Five Year Plan (1964-1969) which followed, although the proposed expenditures in this area were reduced from 25% of the Three Year Plan's budget to 15% of the Five Year Plan's budget.<sup>18</sup>

The agricultural sector did achieve production increases under the first two Plans although there were serious problems in attaining the proposed investment levels (i.e. only 75% of the proposed level was met under the Three Year Plan). The concentration on the small farmer proved quite fruitful and their efforts were given most of the credit for the improved agricultural performance. Whether this was attributable to an effectively implemented government policy was, however, the subject of much dispute--particularly as pertained to the food crop sector of agriculture. It appeared that much of the improvement had occurred in spite of the government's policies and was due to factors beyond its control.<sup>19</sup> Central among these, for example, was the increasing world demand for some of Tanzania's major export cash crops such as cotton and coffee.

Moreover, when one differentiated between the export crop and food crop sectors of agriculture, it was becoming increasingly

evident that the bulk of production increases was occurring in the export sector where large increases were achieved in the 1961-1967 period.<sup>20</sup> According to one perspective, this was seen to be symptomatic of a general trend in all of Africa at this time, where declines in food crop production were being experienced while total agricultural production steadily increased.<sup>21</sup>

Tanzania was no exception to this trend and increased commercialization of agriculture since independence had benefited the export sector disproportionately. One indication could be seen in the late 1960s and early 1970s when, while food crops were experiencing serious declines, the export sector was flourishing with total production levels approaching record highs.<sup>22</sup>

In Tanzania's case this trend must be understood by reference to her position in the world market system, for it has affected the government's perception of its domestic situation and the formulation of its policies to some extent. Within this context Tanzania's recent agricultural history is, in part, a reflection of its inferior position in the world market system where, as a so-called "less developed" country, it must produce those products for which it has a comparative advantage and for which there is world demand. This imposes a set of limitations on its domestic policy options since the export of cash crops is the primary means by which the country acquires foreign exchange for its import and developmental needs (for Tanzania, agricultural exports account for approximately 70% of the value of exports annually).<sup>23</sup>

The dilemmas of this situation have been recognized by the



government which has, at various times, alluded to the inequities of the world trade structure when explaining its agricultural difficulties. An excerpt from the Second Five Year Plan is illustrative:

Continuation of such a structure of trade means nothing less than the increasing exploitation of the people of the developing world by the industrialized nations. The . . . result of this structure is that in the rural areas all efforts are directed towards the production of commodities for the overseas markets, to the neglect of the expansion of the domestic production of foodstuffs, which would more immediately contribute to the well-being of Tanzanians.<sup>24</sup>

While it has never assumed a determinate role, the international context is a factor of some importance in a consideration of Tanzania's food policy, as will be seen in our subsequent evaluation.

Of more immediate relevance is the effect which the trend toward commercialization has had on the food producing sector of Tanzanian agriculture. According to a number of studies, not only has the export crop sector grown faster than the food sector in recent years, it has expanded largely at the expense of the food sector and increased the role which Tanzania's precarious ecological situation plays in determining the country's food production capacity.<sup>25</sup>

It is well known that climate has been the predominant factor affecting Tanzania's agricultural production from year to year. Annual rainfall amounts are unstable, indeterminant, and may fluctuate widely from year to year. The average rainfall within the country is 44 inches yearly (well over the 30 inches considered necessary for stable crop production), yet regional amounts may vary from less than 30 inches to over 100 inches annually--in fact, only one-half of the land area receives adequate rainfall every year.

The rainfall periods also vary from region to region, compounding the problem and producing serious problems of severe aridity and flooding in different areas of the country during the year.<sup>26</sup>

The impact of this problem is widespread and encompasses a major portion of the land and people, as is pointed out in a study conducted by two climatologists well acquainted with Tanzania's situation:

"... in the last 32 years over one-half of the population was affected by major shortages of rainfall."<sup>27</sup> More importantly, they argue that the increasing commercialization of Tanzania's agriculture has enlarged the role which climate plays and enhanced its potentially deleterious effects.

In line with observations from many other parts of the world commercialization of agriculture, regional specialization, centralized marketing, and an urban demand independent of production have increased the economic effects of drought losses and the resultant loss of development effort. Thus a recent drought occurrence in Tanzania, a minor one by its climatological extent, required the import of 43,000 tons of food grains in contrast with minimal imports in the more serious drought of 1965.<sup>28</sup>

Thus while the government's policy in the 1960s had met with some success in increasing total agricultural productivity, the results appeared to be mixed. To those who looked beyond the total figures it was evident that the government's agricultural policy, by failing to clearly distinguish between the needs of the export and food crop sectors, was concealing the deteriorating performance of the latter.

Food policy: 1969-1974. The government's dissatisfaction with the agricultural results and its growing concern over the country's food

crop difficulties was signified when it proposed a new phase in agricultural policy with the Arusha Declaration in 1967. The Declaration announced a restructuring in the country's agricultural priorities and redefined the government's developmental strategy with rural development as its focus. The "villagization" program which had been seen primarily as a pre-condition for the application of modern agricultural methods and technology--which was to be financed largely from external sources of aid--now acquired a more political character as the "Ujamaa" village strategy. The social and political goals of the program emerged on an equal footing with the economic goals, which had until then been the imperative. The proposed changes in the physical and social arrangements of the rural populace were recast as initial stages in moving toward the ultimate goals of peasant self-reliance and collective land exploitation at the village level--a state which was now to be achieved chiefly by dependence upon native skills and capabilities.<sup>29</sup> Although increased agricultural production remained an important concern, there was now to be a greater emphasis placed on the means by which this was achieved.

One of the most important objectives of Ujamaa is to modernize agriculture, creating a framework in which the advantages of large-scale production can be reaped without the negative social consequences of capitalist agriculture.<sup>30</sup>

A most important aspect of this change in policy was the government's acknowledgment that the food producing sector now required specific attention separate from the export crop sector. The government's own assessments of its agricultural policy under the First

Five Year Plan admitted that there were key failures in its policies that required a different approach:

. . . the crucial thing for us to realize is that the increases in output were almost everywhere realized without any change in our method of production. . . . Our present attitude to food<sup>31</sup> is the result of ignorance, indifference, and indolence.

The Arusha Declaration clearly established self-sufficiency in food crops as a paramount goal of the government's development policy, with the Ujamaa village program being proffered as the primary means by which this would be accomplished.<sup>32</sup>

The proposals contained in the Second Five Year Plan, which followed in 1969, illustrated the new preoccupation with the food producing sector. An improvement in the performance of the food sector, as well as in the quality of the food produced, was set forth as an independent priority under the Plan; in its words ". . . our first aim is to provide sufficient and better food for everyone."<sup>33</sup> The need for increases in both food and cash crop production were still considered essential, but expansion in food production and domestic markets to improve its distribution was to take precedence over any expansion in exportable crops (i.e. agriculture was to receive 23% of expenditures under the Plan and, for the first time, 4% of this was to be devoted exclusively to food crop development).

One of the more important projects instituted by the government at this time was the creation of an Agricultural Working Party whose function was to establish crop priorities (those that were to increase, decrease, or remain at the same production levels) which were to be followed during the five years under the Plan. This introduced a

government effort to gain greater control over the production levels of all crops and produced a good deal of optimism concerning the food situation, including the hopeful proposition of achieving an exportable surplus of food crops during the life of the Plan.

Such hopes proved groundless, however, and by 1972 it was quite clear that, in spite of the new directions presumably initiated by Arusha and the Second Five Year Plan, the food situation in the country had worsened (see Tables 2 and 3). Both the government and its critics agreed that the situation had deteriorated but pinpointing the causes for the food sector's poor performance was the subject of some dispute.

President Nyerere was the source of the most frank governmental evaluation of its own policies. In 1972 he presented a report which reviewed the country's agricultural performance since independence. Although he granted that there was a general improvement, his observations concerning the food sector were painfully similar to the remarks he had made three years earlier:

. . . it would be idle to pretend that we have done anything like enough, or that we have really made much progress in modernising our agriculture. Indeed the situation is even worse as regards foodstuffs, because our colonial governors used to concentrate all their attention on cash crops and we have followed their example by not bothering about the methods used in the production of food.<sup>34</sup>

According to Nyerere the overall production increases in the agricultural sector were largely attributable to the great expansion in the area under cultivation (by his estimate it had roughly tripled between 1964-1970), they were not due to any effectively implemented



agricultural policy.

While the government's position appeared to suggest that, although its intentions were good, there had been difficulties in implementing the policy changes in the food area, other more harsh critiques questioned whether there had been any real attempt to change policy at all. An extensive review of the government's agricultural policy by a group of Tanzanian social scientists argued that the government had always favored export crop expansion to the detriment of the food sector, and saw little indication that the policy had substantively changed since the Arusha Declaration.<sup>35</sup>

In the area of export crops they noted that greater aid and extension services (such as fertilizer and credit) continued to be more readily available to farmers who grew export crops. Their prices also remained higher giving a much better financial return than food crops (i.e. although the government had raised the internal market price of some food grains by 25-50% in the early 1970s, they still remained only two-thirds of world market prices). If further proof was needed, it could be inferred from the fact that the large majority of economically viable Ujamaa villages grew cash not food crops, indicating that the support services for the latter were either not available nor sufficient.

The food sector, they charged, was given only sporadic attention, mostly in times of crisis. The ongoing activities of the government agencies set up to deal with the food crop sector could be cited in this regard, such as the performance of the National Agricultural Products Board (NAPB) which took over marketing of food crops in 1964.



The NAPB had concerned itself primarily with the marketing aspects of food crops leaving the production and pricing areas neglected which, due to the higher export crop prices, tended to discourage food production if cash crop growing was an alternative-- as it often was. Thus, while the marketable surpluses of food crops had increased under the NAPB the demand for food imports had increased as well, effectively nullifying much of its accomplishments.<sup>36</sup> Their opinion of the Second Five Year Plan's impact on the food producing sector was quite similar to Cranford Pratt's judgment of the preceding Plan (see note number 19): they concluded that there was a clear lack of programmatic follow-up to any of the food priorities established in the Plan.

The inadequacies of the government's food policy were magnified by developments in the country's food situation in the early 1970s, particularly when changes in the world's food markets produced precipitous price increases in the food imports which Tanzania most depended upon. The domestic situation was further exacerbated by a series of droughts, beginning in 1971, which effected large areas of the country and adversely effected all crop production.

The magnitude of the impact of food import price increases may be seen in a comparison of their costs in 1973 and 1974. During this one year period the costs of food imports tripled as a proportion of the total import bill, reaching 18% of total import costs in 1974 and 1975 (see Table 4). The 1974 crop year was called a disaster in Tanzania although production of some food crops had actually increased, largely because the gap between domestic production and consumption grew wider. This necessitated massive food imports which, according

TABLE 4

IMPORT COSTS OF FOOD AND FUEL AS A PERCENTAGE  
OF TOTAL IMPORT COSTS, 1968-1976  
(money amounts in thousand US dollars)

Year	Total Imports	Food & Animals	Food & Animals As Percentage of Total	Mineral Fuels	Mineral Fuels As Percentage of Total
1968	214513	14148	7	18984	9
1969	198622	12485	6	20037	10
1970	271201	13328	5	23226	9
1971	337640	17309	5	30134	9
1972	363424	31241	9	34001	9
1973	447381	26285	6	48339	11
1974	760152	136951	18	140720	18
1975	740226	132500	18	79776	11
1976	565531	39693	7	102999	18

SOURCES: United Nations, Statistical and Information Bulletin for Africa, May 1977; and Yearbook of International Trade Statistics, 1977, New York: 1978.

to government sources, threatened to exhaust Tanzania's foreign exchange reserves.<sup>37</sup> The continued dependence on food imports was cited by the government as a major contributing factor to the steady decline in the country's balance of trade in this period, culminating in a financial situation so precarious the government was forced to postpone implementation of the third Five Year Plan for three years.

The government responded to the deteriorating food situation with a number of measures aimed specifically at improving the agricultural sector's ability to avoid food shortages. The Iringa Declaration in 1972 set the tone for the government's increased commitment in this area. The Declaration admitted that agricultural performance had declined since 1967 and strongly urged the greater use of fertilizer, modern machinery, and better agronomic practices as the primary means of improvement. More importantly, TANU itself was now placed at the forefront of agricultural reform with its well organized administrative machinery playing a central role in carrying out agricultural education and transformation. An essential aspect of the successful implementation of this new strategy was a speeding up of the "Ujamaa" settlement scheme, announced at the 1973 Party Congress, by proposing to have all peasants in villages by 1976.<sup>38</sup>

Other government measures also indicated a greater awareness of the need for future planning in the food area which had not previously been evident. There was to be an increased emphasis on the NAPB's role as a storer of famine relief supplies when surpluses were accumulated to prevent the drastic financial impact which fluctuating food crop levels had produced in recent years. Higher prices to

producers of food crops were also now employed more frequently as direct incentives to make food production a more financially attractive alternative.<sup>39</sup>

Thus far the government's approach to the "food problem" had placed increased production at the top of the list of priorities in this area. But as the government's increased efforts failed to produce significant improvements there was a considerable debate on whether the principle source of Tanzania's food problem was being attacked. According to one notable outside source, for example, during the 1970-1975 period the whole Tanzanian agricultural sector experienced stagnation with production rising at less than 1% annually.<sup>40</sup> Surprisingly, the increases in the food sector were better than the average, rising at 3.4% and continuing to grow faster than the 2.8% population growth rate up until 1976. From this analysis it could be suggested that the key to the problem is the food sector's inability to keep up with growing demand, a demand which could be largely attributable to the relatively high population growth rate.

The views expressed in more detailed analyses, however, tend to attach much more importance to deficiencies in the government's agricultural policies and their implementation, when explaining the inadequate performance of the food sector in this period. The key problem to most was the difficulties which the government was encountering in effectively implementing the Ujamaa settlement scheme. The most serious was the outright peasant rejection of the "cooperative farming" aspect of the program--which primarily effected the production of food crops in the villages. The net result was to

exacerbate the food situation by creating a food dependence among people who had in the past provided largely for their own basic food needs.<sup>41</sup>

Another frequent criticism was aimed at the government's continued failure to adequately provide the support services needed to make the settlements livable and economically viable. The outstanding example in this area where promise and performance did not coincide was in the government's program to provide the rural areas with one of their most pressing needs: an adequate and regular water supply. Between 1964 and 1971 only 800,000 people were provided with improved water supplies, a rate recognized to be insufficient. The government's reaction to criticism in this area was to announce in 1971, at the height of a new series of droughts, a twenty year target by which time ". . . all Tanzanians living in rural areas should be provided with adequate and readily accessible, clean and wholesome water throughout the year." This would require one million to be added annually to those served (the annual rate now is 300,000), a goal which apparently is beyond the government's technical and financial capacity to achieve.<sup>42</sup>

The government's explanation of the food sector's problems, on the other hand, differs considerably in its emphasis. It has never recognized any significant relationship between the population growth rate and the food issue, nor does it acknowledge that there have been any serious food production losses caused by the dislocations of the Ujamaa program. The government's position has chosen to emphasize

the role which the "natural" climatic conditions have played in the food sector's fluctuating performance and its inability to achieve sufficient sustained growth. The vagaries of the weather--either the presence or lack of adequate rainfall--were always the most prominent factor mentioned by the government spokesmen when offering explanations for both production increases and declines during this period.

Drought conditions, for example, were the reason most often cited by the authorities as the major cause of production declines, with poor husbandry being a decidedly secondary source.<sup>43</sup> The interpretation of production increases was remarkably similar, as an excerpt from a Bank of Tanzania report illustrates.

Favorable weather conditions, good crop husbandry, and increased hectarage were the main factors behind the increased output . . . . However it should be noted that although there was a marked increase in domestic food production, total<sub>44</sub> output was still below total domestic requirements.

No one could really argue with the proposition that the climate had been an important contributing cause of the food "problem" in the early 1970s. But its effects were difficult to assess, and the government's tendency to attribute the fate of food production levels to what was essentially an uncontrollable factor was interpreted as an effort to deflect much of the criticisms which had been levelled at its food policy and the Ujamaa program in this period.

Food policy: 1975 to the present. Since 1975 there have been significant improvements in Tanzania's food situation, but there remains considerable disagreement over how much the situation has really



improved as well as over how much of the improvement is due to effective government policies. There have also been two notable shifts in the government's approach to the food problem which have involved a broadening of its concern beyond a preoccupation with solely the productive aspects of the issue and a greatly increased role for external aid in the successful implementation of the country's current food policy goals.

The 1976/1977 crop year saw production levels return to "normal" in the government's words and one immediate result was a reduction in the food import category of 85% in the first three quarters of 1976 over their value in the same period of 1975. This was accomplished primarily through a widespread increase in acreage planted to grains, a development that was attributed by the government to the success of a political campaign which encouraged all sectors of the population to grow more food.<sup>45</sup>

The estate operators and the large-scale farmers in particular were the focus of this effort. The government was now seeking more immediate results and it was assumed that these farmers had the technological capacity to gain significant short-term production increases. This attempt to increase the food production role of the large-scale farmers initiated a distinct shift in the government's food policy away from its primary concentration on the small-scale subsistence farmer. The exploitation of the food production potential of the more modernized sectors of agriculture is now being emphasized and is being undertaken with the aid of extensive financing and cooperation from external resources.

The new strategy is, for example, an essential aspect of a plan announced in 1977 to establish a four month strategic maize reserve of 100,000 tons--a plan whose success is also heavily reliant on grain contributions from external sources.<sup>46</sup> A National Grain Project was also launched in 1977 which proposes to increase maize output by 195,000 tons by 1982. This project will be entirely financed by the International Development Association of the World Bank and will focus on the high-yielding maize growing regions of the country where, it is presumed, "better husbandry" will produce the most fruitful results.<sup>47</sup>

Some of the non-production related aspects of the food problem are now becoming concerns of the government as well. Energy protein deficiencies, estimated to affect 20-30% of children by a United Nation's study, has been recognized as a serious problem and is believed to be caused, in part, by the poor quality of processed food imports. The government has advocated the wider use of native, home-grown food products as a better quality substitute for these more "convenient" processed foodstuffs, both as a way of improving nutrition and of reducing the dependence on these more expensive food imports.<sup>48</sup>

Food storage problems have also been discovered to be a major cause of wastage, leading to the loss of some 20-30% of crops yearly. The situation has also been made worse by the chronic transportation shortages within the country which have prevented proper timely collection of food crops. In response the government has embarked upon a project to build and improve storage facilities, which again

relies on external funding, in this case from the Danish government.<sup>49</sup>

Amid this general flurry of activity in the food area the most recent summary of the government's perspective on the food situation was issued in the Third Five Year Plan (1977-1982), which was finally implemented in July of last year. Its policy goals in the food area reflect an optimism produced by a generally improving food situation; most notable in that for the first time in a decade the agricultural sector will not be the primary focus of the Plan. The Plan proposes to drastically increase the growth rate of the Gross National Product from its present 2.5% to 6% annually by concentrating on the industrial sector which will receive 27% of proposed expenditure, to 15% for agriculture.<sup>50</sup>

In regards to agriculture the Plan calls for increases in the production of both food and cash crops and, off of recent favorable developments, goes so far as to project self-sufficiency in grain production by 1985. The successful implementation of the Plan is crucially dependent on external finance and cooperation with fully 50% of its estimated \$4-5 billion cost expected to be provided by sources outside the country.

There is some question, however, whether the degree of optimism concerning the food situation which is expressed in the Plan is fully warranted. Few would deny that the situation has improved, but significant variations in yearly food production levels still persist and climate remains the pivotal factor in determining crop levels.<sup>51</sup> Further, it is possible to find significant discrepancies among the government's own appraisals of recent trends in the food situation.

If one looks at food grains, for example, it is evident that there has been a significant reduction in these imports since 1975. Yet it may also be observed that in the first three quarters of 1977 there was an 82% increase in the import category of food and foodstuffs over the same period in 1976.<sup>52</sup> Thus it appears that the financial gains accrued by the reduction in grain imports may be more than offset by the continued dependence on the generally more expensive processed foodstuffs.

The observations of President Nyerere remain the most candid and critical in this area and undercut much of the current hopeful expectations. His views were recently expressed in a report which reviewed the progress made in agriculture since the Arusha Declaration. After noting that total agricultural productivity had grown since 1967 he issued a very critical evaluation of the food producing sector which had not substantively changed from his previous assessments:

. . . not enough has been done, and sometimes the efforts have been misapplied . . . the truth is that our agricultural results have been very disappointing . . . in food production, for example, the increase in output has not kept pace with the increase in population.

Nyerere lamented the fact that "good weather" was most responsible for recent production increases and was sharply critical of the inefficiencies of the food producing section, concluding ". . . our agricultural productivity is too low to produce a surplus that can feed a larger urban population and maintain strategic reserves."<sup>54</sup>

In the most extensive critique of his government's food policy to date Nyerere suggested three primary causes for the food sector's

poor performance: 1) the government's failure to adjust price levels for food products, 2) the inefficient transportation system, and most importantly, 3) a real failure in lack of political leadership and technical understanding at the village level, where the peasant farmer's interests and needs had largely been ignored.

This last point was one of the first clear indications from the government that despite its settlement achievements (by 1977 almost 13 million people out of a population of around 16 million were in villages) the Ujamaa program was not having the desired results on the country's food production capabilities. In retrospect, it presaged the forthcoming shift in emphasis to the large-scale, more modernized sectors of agriculture as the primary means of increasing food production quickly.

According to a number of current studies it appears that the "communal production" phase of the Ujamaa village program, once proclaimed as a means to food self-sufficiency, is close to abandonment.<sup>56</sup> This aspect of the program has clearly been a failure and has been de-emphasized largely because of the resistance of the villages. The contribution of the "cooperative farming" sector of the Ujamaa villages to the national product, while difficult to measure, appears by all accounts to be insignificant. In particular it has had no effect on the supply of foodstuffs to the population, an area where it was supposed to have an important impact.<sup>57</sup>

While this has been judged by many to be a considerable failure as an aspect of the government's food policy the government, thus far,



has resisted efforts to evaluate the program in this manner. Witness the recent statement by a government representative in response to these criticisms, "It is still too early to gauge the impact of villagisation on our food production or output."<sup>58</sup> But as the settlement phase of the program nears completion it will become increasingly difficult to deflect such criticisms, and the question of whether the government has abandoned what was once the most significant goal of its rural agricultural policy will have to be faced.

### Population

Population characteristics. The most recent data available estimates Tanzania's population to number about 16.5 million in mid 1977 with an annual growth rate of 2.5%.<sup>59</sup> The population, as noted above, is overwhelmingly rural although the urban sector has grown from 3.2% of the population in 1957 to 7% in 1978. As a whole the populace exhibits gross demographic characteristics which are common among those countries in the world generally identified as "less-developed". The Birth rate is high, 43 per 1000; the death rate is high, 22 per 1000; the infant mortality rate is high, 167 per 1000; and the life expectancy is low, 44 years. In reference to those gross demographic measures it has been argued that the country is, in comparative terms, underpopulated with a density of approximately 16 persons per square kilometer--a figure which is below average for all of Africa and about one-half of the world average.<sup>60</sup>

The two most striking aspects of Tanzania's population, which



are of considerable importance in understanding the government's policy position in this area, are the age structure of the population and the wide spatial variations in the major demographic characteristics which may be observed within the country.

The age structure of the populace is skewed to the lower age brackets and the situation appears to be getting worse. The proportion of persons under the age of 15 years has grown from 42% of the population in 1947 to 47% in 1977, presenting the country with an expanding pool of individuals who are, for the most part, categorized as economically unproductive and thus an increasing burden to be supported by others.

The government's ability to deal with this problem is seriously hindered by the highly unbalanced distribution of the population within the country and the extreme variations in the important demographic characteristics which occur from region to region. By most estimates 60% of the population occupies 25% of the land, largely settled around the border areas of the country. Consequently, the regional and district variations among the most basic demographic measures can be wide and highly significant, calling into question the validity of utilizing "national" figures as an accurate gauge for any type of planning or policy.<sup>61</sup>

After the 1967 Census, for example, the estimates of density in some areas varied from only 2 to over 221 persons per square kilometer.<sup>62</sup> More important, perhaps, were the variations which could be found in the primary variables effecting the growth rate. One government sponsored study found that at the district level--the

lowest level at which the results were evaluated--there were fluctuations in the birthrate from 31 to 58 per 1000 and in the death rate from 11 to 33 per 1000, producing a population growth rate which fluctuated from 0.9 to 3.7% among the districts.<sup>63</sup>

Population and the government response. The population situation has presented Tanzania's government with some major obstacles to the effective implementation of its developmental plans. The spatial distribution of the population, for example, has been cited by the government as a major impediment to the goals of improved agricultural production, adequate and equitable provision of government services, and the creation of a viable internal market.<sup>64</sup> But within this context the issue of population growth has not emerged as a prominent concern of the government, particularly in the guise of an obstacle to the country's development.

In Tanzania, as in most of Africa, rapid population growth has not been perceived to be a pressing issue requiring an articulated policy response. When population has arisen as an issue, most attention has been devoted to the related problems of sterility and subfecundity as more important national concerns.<sup>65</sup> The debate in Tanzania has revolved around the question of the country's underpopulation rather than its overpopulation in recent years. The relatively high population growth rate and the large increases in population which have accrued in the last two decades--total population has approximately doubled since 1955--have been but minor points of concern to the government thus far.

The government's efforts in the population area have been directed at improving the living conditions of the populace by means other than attempting to control its growth rate. This direction was initiated under the First Five Year Plan when lower infant mortality and increased life expectancy were included among the "essential" goals of development policy. Interestingly, the First Plan also contained one of the few government efforts at controlling the distribution of the population embodied in a proposal to resettle city dwellers on rural lands to help alleviate growing unemployment and population pressure in the cities. This endeavor has been at best sporadic since then, however, and largely a failure, having met with considerable resistance and widespread public disfavor.<sup>66</sup>

This is as far as the government has ever ventured in trying to control the growing population and its effects. The position on the population growth rate as a separate issue is typified in a statement by the Minister for Economic Affairs and Development Planning issued after the results of the 1967 Census were known:

. . . commenting in 1968 on the census results which showed that the population of the country had increased by over 1/3 between 1957 and 1967 he stated that Tanzania was underpopulated and had room for millions more, though his government had not set an 'ideal' optimum number.<sup>67</sup>

The government's stance on population growth has changed very little in the ensuing years. The most significant development has been a growing awareness of the fallout effects of the country's increasing population on general living conditions. The first sign of such a change was indicated by President Nyerere's comments in

his preface to the Second Five Year Plan.

It is very good to increase our population because our country is large and there is plenty of unused land . . . But it is obvious that just as the number of our children is increasing, so the burden to adults--the workers--is also increasing . . . It is for this reason that it is important for human beings to put emphasis on caring for children and the ability to look after them properly, rather than thinking only about the number of children and ability to give birth.<sup>68</sup>

The voicing of this concern has been followed in substantive terms in this area by a government emphasis on family planning. But a concept of family planning which specifically defines it as a health care measure whose primary benefits will be to prevent infertility and subfecundity and reduce the level of infant mortality. Control of the population growth rate has clearly not been considered to be an aspect of this program.

Indeed, until 1973 the implementation of this policy consisted exclusively of allowing the privately organized and financed Family Planning Association of Tanzania--founded in 1959--to use the facilities of the government clinics and hospitals to provide mothers with the opportunity to voluntarily receive information on child-spacing and maternal care, as a health care measure for both mother and child.

This concept of family planning as an appropriate device for dispensing effective health care practices among mother and child has continued to form the core of the government's activities in the population area in recent years. The government's commitment increased significantly in 1973 when Family Planning was announced to be a national policy which called for all government institutions

to help facilitate provision of these services to the population. Family planning became fully integrated into a framework for the improvement of the basic health services, particularly in the rural areas where such services were sorely lacking. The current goal is to provide Mother and Child Health Clinic (MCHC) services within 10 kilometers of 90% of the population by 1980.

The government's program in this area consists primarily of constructing the physical facilities in the rural areas and providing the medical staff, and its expenditures in this regard surpasses that of most African states in recent years.<sup>69</sup> The family planning services themselves are, however, still exclusively provided by the private organizations who are dependent on external aid for their funding.<sup>70</sup>

Although its commitment to a health-care oriented conception of family planning has increased, the Tanzanian government continues to view the country's population growth rate without great concern. The government's posture on this issue specifically rejects the proposition, which has wide currency among many population "experts" and international agencies, that population growth is a primary obstacle to the development of "less-developed" countries like themselves.<sup>71</sup> The idea that excessive population growth is a key factor in perpetuating a "less-developed" country's poverty is not one which has gained many adherents among Tanzanians, as the comments of one close observer of the situation points out.

Thus far, only a few Tanzanians believe that this situation holds true for their country. With large shifts in population, and especially with more efficient



agricultural methods, Tanzania can accommodate more inhabitants than at present.<sup>72</sup>

In fact recent action, or inaction, by the government in this area could be interpreted as a direct challenge to this view. At the World Population Conference in Bucharest in 1974, for example, Tanzania was among those states characterized as "not seriously concerned" about the population issue.<sup>73</sup> Its perspective of the "growth" issue is identified with the analysis advanced by some African demographers who argue that there are good economic reasons for higher population growth rates within Africa's demographic context. Chief among these are the need for larger domestic markets to reduce external economic dependence and the serious lack of manpower in certain areas which besets many African states, as it does Tanzania.<sup>74</sup> Based upon this analysis, population growth is seen as both an opportunity and a challenge, not necessarily an impasse.

Thus does an observation on the government's position regarding this aspect of the population issue in 1975 still largely reflect the situation today:

The government has taken into consideration such factors as resource base of the economy, low population density of 14 persons per square kilometer in 1972 and just 7% of its population in major towns by 1970, in deciding not to adopt a population control policy. It is widely believed that the economy could benefit from a higher concentration of people in towns, as well as higher population densities.<sup>75</sup>

Tanzania, like most of Africa, has refused to view population as an issue per se, preferring to take the approach that "the best pill is development".



## Energy

Energy conditions and the policy response. The energy situation in Tanzania is, in many respects, quite unlike that characteristic of a large portion of the rest of the world, although shortages of supply and increased costs of energy have been important problems in the country's recent energy history. The energy resources most important to the everyday living conditions of the population are hydro-electric power, which is the chief source of electricity, and wood, which is the primary energy resource consumed to meet the basic energy needs at the village level. The recent energy "crisis" in Tanzania has had its principal manifestation for the vast majority of the population in the growing fuelwood shortage, which has been produced by the rapid, unregulated deforestation of the country's forestry resources--now recognized to be a serious problem in all of sub-Saharan Africa.<sup>76</sup> Secondarily, it has been felt in the inability of hydro-electric power to expand sufficiently to meet growing domestic energy demands in the 1970s.

The important exception in Tanzania's energy situation, which it has in common with the industrialized societies of the world, is the crucial dependence of the country's industrial and transport sectors on petroleum to provide for most all of their energy needs--oil which must be entirely imported. Thus while the nature of Tanzania's energy situation exhibits unique characteristics, one striking aspect is the critical role which petroleum plays in one of the world's most poorly developed economies and the constraints which this

condition places on the government's ability to effectively deal with the energy problem.

Recent developments. A key problem in Tanzania has been the failure of the energy producing sector to grow adequately to meet essential energy needs over the past decade. The growth in energy production has lagged so far behind demand that, according to the Statistical Yearbook of the United Nations, per capita consumption of energy actually declined in Tanzania between 1970 and 1975 (see Table 5).

Much of the energy sector's poor performance is attributed to the country's lack of any significant solid energy resources whose exploitation is both technically feasible and economically rational within the context of the nation's energy needs. Coal is the only solid energy resource which the country possesses in quantity (it is the only East African state with any exploitable coal), yet its deposits have not been developed to any extent and production has virtually stagnated since 1968 (see Table 5). The nature of the coal deposits are the primary cause: they are poorly located, difficult to extract, expensive to transport, and environmentally hazardous--obstacles which are exceedingly difficult for a financially straightened country like Tanzania to overcome. Consequently, coal is not an important factor in Tanzania's current energy picture and, based on the analysis of some government studies, will not be a relevant energy resource, given current technology, for a substantial portion of the country's energy needs in the foreseeable future.<sup>77</sup>

TABLE 5  
ENERGY PRODUCTION AND CONSUMPTION, 1967-1976

Year	Coal* Production	Hydroelectric@ Production	Per Capita# Consumption
1967	2	29	71
1968	3	31	-
1969	3	34	-
1970	3	38	71
1971	3	38	-
1972	3	39	73
1973	2	44	95
1974	2	46	-
1975	1	n/a	70
1976	1	n/a	68

SOURCES: United Nations, Statistical and Economic Information Bulletin for Africa, May 1977; and United Nations, Statistical Yearbook for 1971, 1974, 1976, and 1978. New York: United Nations.

\*metric tons

@thousands of coal ton equivalents

#kilograms

Out of necessity (and circumstance, i.e. cheap oil) oil and, more recently, hydropower have served as the major sources of energy for the two most energy intensive sectors of the Tanzanian economy: manufacturing and transport. Oil has been of paramount importance to the growth and expansion of these areas of the economy and any significant alteration in its crucial role in the economy and society appears, by all accounts, to be quite unlikely.

The importance of petroleum to Tanzania was extensively reviewed in the early 1970s when the drastic world price increases severely undermined the country's financial position. Between 1973 and 1974, for example, the cost of petroleum imports as a proportion of the cost of all imports jumped from 11% to 18%, and viewed as a percentage of export receipts the increase was even greater, going from 13% to 35% in the same period (see Table 6). Combined with the simultaneous developments in the food situation discussed previously, these cost increases presented major financial difficulties to the government. They exacerbated a continuing deterioration in the balance of payments and foreign exchange reserves and forced the government to seek massive external financial assistance, including almost \$100 million from the International Monetary Fund and the International Bank for Reconstruction and development and a \$14 million loan from the Arab-African Oil Assistance Fund, just to keep its head above water.

The greatest economic impact of the oil situation was felt in the manufacturing sector where growth stagnated and has still not adequately recovered (i.e. in 1975 GNP rose at a record low 2.2% while industrial production fell by fully one-half!).<sup>78</sup> Power

TABLE 6  
 PETROLEUM IMPORTS AS A PERCENTAGE  
 OF EXPORT RECEIPTS, 1971-1978

Year	Cost*	Percentage of Export Receipts
1971	215	11
1972	242	10
1973	338	13
1974	1004	35
1975	590	21
1976	789	19
1977	843	19
1978	1040	29

SOURCE: International Monetary  
 Fund, International Financial  
 Statistics. Volume XXXII, November  
 1979.

\*millions of Tanzanian shillings

and energy shortages have been cited by the government as the major causes of the chronic underutilization of productive capacity in manufacturing which has obtained in recent years.<sup>79</sup> The plight of the industrial sector in general (i.e. between 1966-1974 its contribution to the Gross Domestic Product grew inadequately--from 8% to 10%) has been magnified by these developments and its expansion is now the central focus of the current Five Year Plan.

The potential for significant cutbacks in petroleum usage or the utilization of alternative fuels is, however, in the opinion of government spokesmen severely limited and involves unacceptable costs. The views of the Minister of Finance on cutbacks are typical:

. . . with only 6 to 8 percent of our fuel used for pleasure driving and only about 12 to 14 percent for passenger cars at all--we can save very little on quantity used without crippling cuts in rural health, agricultural extension, transport of staple foods, manufacture of textiles and similar key outputs.

as are those of the Governor of the Bank of Tanzania on alternatives to oil:

. . . because of the past cheapness of mineral oil and the lack of technically feasible substitutes for use in the field of road and air transport we are heavily dependent on oil for supplying our energy requirements . . . Because well over half our use is for road and air transport, alternative energy developments are unlikely to reduce the proportion of oil in imports.<sup>81</sup>

Hydro-power is one energy resource which Tanzania has in relative abundance. It has only recently become the chief source of the generation of electricity for both industrial and mass consumption, supplanting thermal power which had accounted for 60% of the electricity generated until 1975. The expansion of hydro-power



generation has been slow to occur, although it has been a priority of the government in recent years, largely because much of the funds which would have been devoted to its exploitation have been diverted to defraying the increased costs of food and petroleum imports.

More importantly, while hydro-power has become the dominant mode of power production for mass consumption its availability and appropriateness to the energy needs of the majority of the population is severely circumscribed. Its availability is confined primarily to the large towns and thus only to a small portion of the population. This situation appears unlikely to fundamentally change in the near future; according to the estimations of some, this type of electricity--the mode generated by large scale plants--will remain at best a marginal energy resource for most Tanzanians for some time to come.<sup>82</sup>

On the other hand, fuelwood is and will remain the primary type of energy consumed by Tanzanians, especially in the rural areas where, interestingly, most energy consumption is "non-commercial" by industrial nations' standards and, therefore, not conducive to effective control.<sup>83</sup> This has facilitated the rapid deforestation of the woodlands which has now begun to produce serious fuelwood shortages in some areas.

Energy: the policy response. The government's reaction to these developments in the country's energy situation in the 1970s has been slow in occurring and no definitive energy policy has emerged which attempts to deal with multi-dimensional aspects of the problem.

Prior to this recent period of difficulty the government's policy in this area emphasized the development of the country's hydro-power potential to produce electricity, presumably for mass consumption. Under the first two Development Plans though, the implementation of this program was constrained by the lack of necessary investment capital and the absence of a sufficient economic demand to warrant the expense and effort involved in mass power production.

The proposals of the Second Five Year Plan only slightly altered the strategy in the energy area. Hydro-electric generation was again to be emphasized but now was beginning to be seen as a less expensive alternative to the then dominant mode of electrical generation, thermal power, which was exclusively dependent on diesel fuel for its functioning. Thermal was to become only a supplemental source of energy generation.<sup>84</sup>

The developments in the world oil pricing and distribution system in the early 1970s understandably produced much greater governmental activity on the energy front, efforts which were generally informed by an unarticulated long-term goal of energy "self-reliance".

The major part of the program consisted of an extensive mineral prospecting venture, launched in 1973, which due to a lack of capital, equipment, and expertise relied heavily on entering into joint explorations with foreign corporations and governments. Subsequent payoffs have been minimal thus far but have included the discovery of gas deposits offshore, which are projected for future exploitation with India's aid.

The government has also enlisted the aid of the Chinese to better

develop the country's coal resources, principally as an energy source for basic industries such as iron and steel production which are scheduled for future development as measures to increase Tanzania's self-reliance in these essential materials.

The most important step toward energy self-sufficiency was achieved with the completion of the massive Kidatu Dam hydro-electric power project in 1975. This resulted in a considerable reduction in oil imports by displacing thermal generators and has drastically improved the reliability of the electricity supply which manufacturing relies on.<sup>85</sup>

In the area of most immediate concern to the rural population the government has only recently undertaken an organized effort to deal with the deforestation problem. It has initiated a program throughout the mainland to develop village-level afforestation projects consisting of the creation of tree plantations. The hope is that these will ultimately serve as the primary, regulated source of both firewood and construction materials for the villages.<sup>86</sup>

The prospects for progress toward any degree of energy self-sufficiency appear clearly to be a long-term proposition for Tanzania and one which, as was seen in the food area, is dependent upon a considerable amount of external aid and cooperation. Thus by most assessments, the "energy program" which the government has instituted will leave the current situation fundamentally unaltered until at least the late 1980s.<sup>87</sup>

## C H A P T E R      I I I

### THE "ISSUES" OF ENERGY, POPULATION, AND FOOD IN BRAZIL

#### Introduction

During the period under consideration in this chapter the Federal Republic of Brazil has been ruled by a military dominated regime which seized power by coup d'etat in 1964. Since that time the government has been presided over by a procession of army generals who have been appointed (normally by their immediate predecessor) to the position of President of the Republic.<sup>1</sup>

In general the military has ruled by decree but there is a Congress and--as is the wont of authoritarian regimes in Latin America--the military has devoted a great deal of effort to filtering its policies through the Congress and utilizing its "ratification" as a means of attaching some modicum of popular legitimacy to its rule. The Congress initiates little legislation on its own however, and it has primarily served as a rubber stamp for bills introduced by the executive. When the Congress has attempted to exercise some independence in important matters the executive has not hesitated to use its vast "emergency powers"--one of which is the power to suspend Congress indefinitely--to effectively quash these impulses and invoke laws by decree.<sup>2</sup>

During the period under consideration in this chapter there

were two major political parties who were allowed varying degrees of participation in the political system. The dominant party was that of the government, the Alliance for National Renovation (ARENA), while the one opposition party, the Brazilian Democratic Movement (MDB), was allowed little access to effective power. But on the occasions when the military has permitted "popular" elections for local government and legislative positions the MDB successfully gained a significant degree of electoral support. In 1974, for example, the MDB ran primarily on the issue of income inequality which had worsened significantly under the military despite a considerable increase in the country's economic growth rate.<sup>3</sup> More recently, in the 1978 elections, the MDB again gained significant support (approximately 58% of the votes cast) by calling for an end to military rule and for free direct elections for all public offices in its campaign.

Nevertheless, these expressions of public dissatisfaction with some aspects of the military's rule were effectively diffused by a series of electoral laws which minimized the MDB's impact and made it difficult for the party to function as an effective opposition. These measures combined to guarantee the pro-government ARENA a majority in all organs of real political influence--a situation which remained basically unchanged by the revocation of Institutional Act No. 5.<sup>4</sup> Thus the government was able to carry out its policies in most areas--including the three under discussion here--without any effective political opposition.

According to the military the primary motivation for its take-over in 1964 was the chaotic domestic economic situation (inflation was estimated to be running at 90% that year) which in the military's view was producing conditions that were a serious threat to the national security requiring drastic action. Subsequently, the two interconnected themes of economic development/modernization and preservation of the national security have informed the military's rule, with the one being a necessary condition of the other.

The developmental orientation which has emerged out of these priorities is perhaps best characterized as a technocratic-military alliance whose economic policies have been based upon a market-oriented high consumption industrial model which has placed great emphasis on the growth of the total economic product as the major developmental priority upon which all other development is dependent. Since 1964 the military government has viewed the accelerated growth of the industrial sector as the leading edge in their strategy with the agricultural sector assuming a subsidiary role in developmental policy as a supplier of raw materials and foodstuffs which the expanding industrial sector and consequent growing urban population requires.<sup>5</sup>

In the Brazilian case the "state" has assumed an extensive role in the economy, although private ownership of both property and the means of production are still widespread. An excerpt from a 1975 Bank of Brazil report on the economy indicates the theoretical rationale which has purportedly directed the state's role under the



military.

The Brazilian Constitution stresses the primary role of private enterprise in the economy and provides that the Government will intervene directly in a given industry only for reasons of national security or because that industry is not susceptible of efficient development by private enterprise.<sup>6</sup>

In practice the state in the Brazilian economy now consists of a wide variety of public authorities at the federal, state, and local levels,<sup>7</sup> plus enterprises and banks controlled by one of these governmental levels; and various types of direct controls by both central and local governments--all these are in addition to the traditional government institutions concerned with monetary and fiscal policy. State firms currently dominate in a number of strategic sectors of the economy which will be under discussion in this chapter, including: petroleum and gas where 83% of assets are government controlled, mining with 63% of assets, electric power with 87% of assets, transport with 84%, and communications with 100% of assets. The state's role in the economy's key sectors has grown considerably under the military and it is clear, with the simultaneous increase in foreign capital's role, that it has been an expansion which has taken place largely at the expense of Brazil's private sector.<sup>8</sup>

Despite this large state presence in some sectors, however, it is interesting to note that, in many cases, in its efforts to implement its policies the government's approach still relies heavily on the market to achieve its goals, rather than on detailed planning and control by government agencies. During its tenure in power the military has generally utilized a combination of planning, infra-

structure investments, government enterprises, and control and guidance of the private sector through stimulation of investments as its primary tools in enacting policies. The particular mix of government techniques which are employed depends to a significant degree upon the policy area involved, as we will see in its contrasting approaches to the food and energy situations.

Lastly, to provide some perspective to the following analysis of the specific policy areas, it is useful to supply a brief summary of the current economic situation in Brazil and to mention some of the major issues now affecting the government's developmental strategy.

Under the military Brazil's overall economic progress has been substantial with the Gross National Product (GNP) more than tripling since 1964. At the height of this era of expansion, 1968-1974, the average annual growth rate of the GNP was between 10-11%, one of the highest in the world. This growth reflected the success of the government's industrial emphasis as the industrial sector led the surge with an annual growth rate of 11.9%, followed by transport and communication at 11.7%, and agriculture at 5.9%.

Much of this economic expansion was attributable to the government's conscious effort to more fully integrate Brazil into the international economy. In this area there were three major factors which contributed to their success. These were the rapid expansion and diversification of Brazil's exports, the substantial influx of foreign investment which flowed into the economy--particularly into

the leading growth industries, and the truly massive increase in the role which foreign loans played in fueling this economic expansion.<sup>9</sup> These developments have also had a negative effect too, however, and, beginning with the onset of world recession in 1974, the serious fall-out effects have been felt.<sup>10</sup>

In addition, despite its economic achievements, the military's development strategy has not been able to overcome the traditional, chronic Brazilian problems of inflation and the vast regional inequalities which obtain in the country. Inflation, for example, has now returned to unacceptably high levels (on average 42% between 1976-1978) and been labeled a major constraint on growth by the government. The fight against inflation is now a top priority of the government as it has had a major impact on the deteriorating living conditions of the majority of the population in recent years (see the Food section below).

Regional inequalities, which have long plagued the country's development, have not moderated under the military despite concerted government efforts to integrate the economically depressed regions (North, Northeast, and Central West) into the commercial economy. In fact, some of the regional imbalances worsened during the 1960s and do not appear to have improved significantly in the last decade (see Table 7), and it is clear that the recent industrial emphasis has exacerbated the unbalance among the industrial and agricultural states.<sup>11</sup>

The following sections will present a general overview of the

TABLE 7

## BRAZIL: REGIONAL ECONOMIC INDICATORS

Region	National Area %	Population Per km <sup>2</sup> *	Percentage Distribution						Per Cap Income % Nat'l Average		
			Population			Total Income					
			1950	1960	1970	1949	1959	1970	1949	1959	1970
North	42.0	1.01	3.6	3.7	3.9	1.7	2.0	2.0	47	54	51
Northeast	18.2	18.23	34.6	31.6	30.2	14.1	14.0	12.2	41	44	40
Southeast	10.9	43.38	43.4	43.8	42.8	66.5	64.1	64.5	153	146	151
Center South	6.8	29.35	15.1	16.7	17.7	15.9	17.5	17.5	105	105	99
Central West	22.1	2.70	3.3	4.2	5.4	1.8	2.4	3.8	54	57	70
Brazil	100.0	10.94	100	100	100	100	100	100			

SOURCE: Derived from data in IBGE, *Anuario Estatístico do Brasil*, 1973. Fundacao Getulio Vargas, *Sistema de Contas Nacionais*, September 1974, Tables 10-12. Reproduced in Stefan Robock, *Brazil: A Study in Development Progress*. Lexington, Mass.: D.C. Heath and Company, 1975, p. 76.

energy, population, and food situations in Brazil and will review the important developments which have occurred in these areas over roughly the last decade. This account will provide the essential background for our examination of the current state of the government's policies in these areas and of the major factors which have influenced their formulation and implementation. Once again the primary purpose here is to characterize the government's perception of these issues by drawing upon the policy responses as the primary representation of the government's understanding and treatment of these issues.

### Energy

Background to the energy crisis, 1966-1973. Given the developmental strategy which has been followed by the military government, it is not surprising that among the three issues to be discussed energy has by far received the highest priority. The economic successes of the industrially-oriented development policies have brought with them an enormous increase in the country's consumption of primary energy resources--particularly that of electrical energy and of petroleum and its derivatives.<sup>12</sup> Indeed, the increased consumption of energy has been viewed as a positive and necessary aspect of the nation's economic growth and, although the country has encountered serious energy problems in the 1970s which have undermined the government's development efforts, there are few signs that this perception has changed. A recent government publication has reaffirmed the essential role of energy in these words: "The expansion of industrial output

and the country's general economic activity is linked directly to the expansion of electricity production."<sup>13</sup>

In Brazil's case, as with many other more industrialized states of the world, the recent events which have altered the structure of the world's energy distribution system have increased the awareness of the importance of native energy resources and, since the country lacks certain key resources, have brought with them the problems of external dependence, uncontrollable costs, and shortages. The policy response has been at times a helter skelter effort aimed at the general goal of assuring a plentiful secure energy supply for the foreseeable future, concentrating largely on petroleum and electrical resources which are essential to the continued expansion of the industrial and transport sectors.<sup>14</sup>

In terms of energy resources Brazil has found itself to be most deficient in the two fossil fuels (coal and oil) which have historically been the basis of industrialization and this has accounted for a large measure of the country's energy-related difficulties in the 1970s. Coal resources are, for example, relatively plentiful but are of very poor quality and Brazil's coal industry has long been hindered by inefficient operations and a poor transport system. Due to its inferior quality (only 50% of the coal mined is eventually used due to the processing which it must undergo) the coal is very low in heating power and is thus unsuitable for use in key industries such as iron and steel production--which has decidedly increased in importance under the industrial thrust of the military. As a result,



coal imports, which have always been a substantial portion of total consumption, have become increasingly important; for in order to use domestic coal in steel-making it must be mixed with higher quality imports in a ratio of 35 to 65%. Traditionally, imports have accounted for approximately 65% of the country's metallurgical coal needs, a proportion which has continued to increase in recent years.<sup>15</sup>

This lack of appropriate coal resources has also had serious ramifications in other energy-related areas such as the increased exploitation of the country's forests, as one study has concluded:

The general inadequacy of the available coal and other mineral fuels, . . . , has been largely responsible for the heavy deforestation of the semi-deciduous plateau woodlands--exploited for firewood and wood for charcoal.<sup>16</sup>

Brazil's iron and steel industry is noted for its extensive use of charcoal in its blast furnaces as a substitute for coal. The industry accounts for approximately 75% of total charcoal consumption annually and the increased steel production has driven charcoal usage up 12% annually over the past decade. In some of the more heavily populated areas of the south deforestation has become a significant problem which some steel companies have met by initiating their own commercial afforestation projects. Another more important development, however, has been the growth of commercial exploitation of the Amazon forests in the North where, as yet, the ecological effects of this exploitation remain largely unknown.<sup>17</sup>

It is upon petroleum, however, that much of Brazil's recent economic growth has depended and it remains the crucial energy

resource in the country's foreseeable future. Oil has been most important to the expansion of the two leading growth sectors of the past decade, transport and industry, two sectors in which, according to informed government opinion, its utilization is not subject to significant modification and/or substitution. As Minister of Finance Mario Henrique Simonsen remarked in a 1974 assessment of Brazil's energy situation:

. . . our transport system was projected on the assumption of superabundant and cheap oil with great emphasis on highways rather than on railroads and shipping, and also with the predominance of passenger cars as an alternative to collective transportation.<sup>18</sup>

Furthermore, he pointed out that petroleum was essential as a raw material input for Brazil's burgeoning chemical industry and would remain the only suitable fuel for certain industrial processes requiring heat.

Unfortunately, however, Brazil's domestic oil resources have never been sufficient to satisfy demand and in recent years the situation has materially worsened. The industrial thrust has quickly driven up oil consumption and, over the past decade, there has been a persistently widening gap between domestic production and consumption even though production has increased significantly in this period.<sup>19</sup>

The petroleum industry has been one area where the government has been long dominant, establishing its monopoly over all stages of the industry except distribution in 1953 with the creation of Petroleo Brasileiro, Sociedade Anonima (PETROBRAS, S.A.). PETROBRAS'

original purpose was to preserve domestic oil supplies, which were at that time largely unknown and thought to be insignificant, for emergency situations. After an initial decade of relative quiescence PETROBRAS assumed a much more active posture as with the 1960s oil's importance to the economy increased precipitously.

During the 1960s PETROBRAS had concentrated on exploration for oil within Brazil and had achieved some production increases. But the changed conditions had made its rate of improved production inadequate and in the late 1960s PETROBRAS became the vehicle for the government's first serious initiatives in the energy area. This came in the form of a government announcement which proposed that oil self-sufficiency was to be achieved by 1980, primarily by extending the oil exploration effort onto the continental shelf where the potential, while basically unknown at that time, appeared high for significant petroleum deposits.<sup>20</sup>

The government committed itself to substantial expenditures on oil exploration and PETROBRAS' exploratory drilling significantly increased in the next few years. But domestic production increases continued to fall-off and from 1970-1973 the level of production virtually stagnated as new discoveries served only to replace the rapid depletion of on-shore fields (see Table 8).

An additional government measure, which was interpreted by many as an indication of its disappointment in the rate of new discoveries and a lack of confidence in the country's potential resources, was the creation of Petrobras Internacional, S.A. (BRASPETRO) as a wholly owned subsidiary of PETROBRAS in 1970. This was an international arm

TABLE 8

DOMESTIC PRODUCTION OF PETROLEUM AS A PERCENTAGE  
OF TOTAL CONSUMPTION, 1968-1978

Year	Percentage		Year	Percentage	
	Production*	of Consumption		Production*	of Consumption
1968	59.8	38	1974	64.7	20
1969	64.0	36	1975	61.7	19
1970	60.0	33	1976	61.3	18
1971	62.6	30	1977	60.6	18
1972	61.1	26	1978est	61.1	17
1973	62.0	20			

SOURCES: Quarterly Economic Review of Oil in Latin America and the Caribbean; Bank of London and South American Review; and United Nations, Statistical Yearbook, various issues.

\*in millions of barrels. Some figures arrived at on conversion basis of 6.29 barrels = one cubic meter.

of PETROBRAS whose purpose was to enter into exploration contracts with other countries to explore for oil outside of Brazil. While the official public rationale for this move was again "conservation of Brazil's oil" it was widely interpreted as a further indication of the government's view that the oil situation had deteriorated to the point that drastic action was in order. Indeed some have argued that even before 1973, when the world oil prices skyrocketed, oil import costs had become a major drain on Brazil's foreign exchange, a situation which was to deteriorate much further in the next few years.<sup>21</sup>

The state of the Brazilian electrical energy industry was most promising in this period, in marked contrast to the oil situation. One of the major reasons for this situation was the relative insignificance of oil's use as a fuel for generating electricity; at 10% Brazil had one of the lowest degrees of dependence on oil for generating electricity in the world. Hydropower was the primary source of power generation accounting for approximately 80% of electricity produced--with the rest coming from thermal generators. In addition, the country possessed one of the world's highest hydroelectric potentials and, despite the fact that per capita consumption of electricity had doubled between 1962-1975 with installed capacity increasing by four times in the same period, only about 10% of the country's hydropower potential was being exploited in 1975.<sup>22</sup>

While in 1973 the electric power industry remained a mixture of state and private enterprises, the rapid expansion of electrical generating capacity in this period primarily reflected the massive increase in the state enterprises' share of the power generation field (i.e.

from 36% in 1961 to 80% by 1970). The policy of the government during this period concentrated almost exclusively on the exploitation of the country's hydro potential as the way to meet growing electrical demand, and was carried out through Centrais Electricas Brasileiras, S.A. (Electrobras) which was a state controlled holding company responsible for the planning, financing, and coordinating of the government's electric power programme.

If there was one problematic aspect of the electrical energy sector at this time it was the highly unequal distribution of electric power which was distorted toward the urban areas, reflecting the overall development which was occurring. According to one account, in 1971 the Southeast and South regions alone were responsible for 80% of electrical demand and a breakdown of consumption revealed that industrial usage accounted for 52% of all electricity consumed. The recent growth of the power industry had clearly been urban-oriented, for outside of the heartland the most common methods of power generation remained small diesel powered generators and charcoal, where forests were still abundant. The development of power resources had lagged in the non-industrial regions like the Northeast where power shortages were still a chronic problem.<sup>23</sup> These serious distortions in Brazil's electrical energy system were to soon impose significant restraints on the industry's urban-oriented development of hydropower and thus set the stage for one of the major new departures in the government's energy program in the mid 1970s.

The response to crises: energy policy 1974-1976. The unexpected



developments in the world's energy situation in these years had major ramifications in Brazil and produced a flurry of government activities in the energy area. The material effects were most evident in the oil situation where the costs of Brazil's increasing dependence upon imports were beginning to seriously undermine the government's developmental goals. In this period the cost of petroleum imports rose progressively from less than US\$1 billion in 1973 to over \$4 billion in 1976, comprising 24% of the value of all imports in 1975 and 30% of the total in 1976. Moreover, the domestic production of oil continued to decline as a proportion of total consumption, reaching a level of less than 20% by 1976, while domestic production actually declined in both 1975 and 1976 (see Table 8 and 9).

Even in the face of these difficulties, however, the government refused to significantly alter its developmental strategy and the energy policy which was forthcoming in these years was, in the government's words, still based upon "A continued commitment to high growth rates in an open economy."<sup>24</sup> The general outlines of the national energy policy which was formulated in response to these events were contained in the Second National Development Plan (1975-1979), issued in late 1974. The Plan characterized the energy issue as one of "The Major Themes of Today and Tomorrow" and indicated that the two priorities of the new policies in this area were: 1) the progressive reduction of energy imports--by developing substitutes for oil; and 2) the maximum possible use of what were described as non-conventional sources of energy, the most important being coal and nuclear energy.<sup>25</sup>

TABLE 9

THE COST OF PETROLEUM IMPORTS AS A PERCENTAGE OF  
TOTAL IMPORT COSTS AND THE VALUE OF ALL EXPORTS  
1968-1978

Year	Cost of* Petroleum Imports	Percentage of Import Costs	Percentage of Export Receipts
1968	0.27	13	14
1969	0.24	11	10
1970	0.29	10	10
1971	0.46	13	16
1972	0.57	12	14
1973	0.99	14	16
1974	3.23	23	41
1975	3.30	24	38
1976	4.08	30	40
1977	4.20	32	35
1978	4.60	31	36

SOURCES: Derived from data in United Nations, Yearbook of International Trade Statistics, 1970. New York: 1971, for the years 1968-1970. For 1971-1978, source is International Monetary Fund, International Financial Statistics. Volumes XXXI and XXXII, various issues. Washington, D.C.: Monthly Publication.

\*amounts are in \$US billions.

The most surprising departure of the new policy program was in the field of electrical energy where the government announced a long-range commitment to a nuclear alternative. The basis for this shift in emphasis to nuclear was a radical re-evaluation of the country's hydro-power potential as compared to the assessments of just a few years past. The distributive structure of the electrical system was a crucial factor in the government's changed perception for, although the possibility for the continued expansion of the hydro-system appeared technically limitless, there were now economic considerations which had assumed priority. A statement by the then President of Nuclebras (the state holding company which dominated the nuclear industry) indicates the rationale which informed the new strategy:

By 1980 our hydroelectric resources would be exhausted in the Southeast and the Sao Francisco Valley. We will still have at that time only the hydroelectric potential of the Amazon . . . a good deal of which is in the region's north (far from markets). . . The fact is that the installation of our nuclear reactors near the centers of consumption will enable the energy resources to be used right there without costly and wasteful long distance transmission.<sup>26</sup>

Thus the new policy foresaw the short-term exhaustion of hydro-power in the areas where demand was expected to increase most rapidly, therefore the policy proposed a joint utilization of hydropower and nuclear which saw the latter's role progressively increasing (i.e. it was envisioned that by 2010, 41% of the total energy supply would be coming from nuclear plants).

The first step in the implementation of the nuclear alternative occurred at about the same time that the Plan was issued with the

creation of Nuclebras whose purpose was, in the words of the Minister of Mines and Energy, to ". . . establish in the country a heavy industry to make reactors and to encompass all states of the so-called combustion cycle, to provide a growing electrical energy capacity."<sup>27</sup> This was surely a long-term goal, however, in a country with no nuclear industry to speak of and the next major step in the government's proposed quest for self-sufficiency in this area illustrated this point. It came about when the government signed an agreement with West Germany, extending over the next fifteen years, which involved the exchange of West German nuclear technology for an assured supply of uranium from Brazil--whose resources were then thought to be both abundant and of a high quality. The primary benefits for Brazil included the opportunity to purchase complete power plants from West Germany with favorable provisions for the significant transfer of nuclear technology, thereby allowing Brazil time to develop its own native nuclear industry without the undue pressure of rising electricity consumption. By the termination of the agreement it was expected that about ten nuclear facilities would be producing power commercially with another fifteen to be under construction, thus Brazil would be well on its way to achieving a substantial nuclear capacity in the electrical generation field.<sup>28</sup>

Although nuclear got most of the attention, hydropower also remained a central concern of the energy program over the short-term. Hydropower had increased its share of total electrical generation to nearly 90% by 1975 and under the Second Plan over twenty-five

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hydroelectric plants were to be either constructed or expanded. The most important among these was the construction of the Itaipu power station which was a joint project being undertaken with the government of Paraguay. Upon its expected completion in 1983 Itaipu would be the world's largest hydroelectric plant, nearly doubling Brazil's total generating capacity of 1970. It was expected to play an important role in meeting the growing electric demands of the Southern regions while the nuclear capability was being developed.

Aside from the electrical energy field the other major concern of the government's energy program was focused on the petroleum situation. The most emphasis in this area was given to increasing the domestic production of oil while, at the same time, taking measures to reduce the large increases in oil consumption (the first time this subject had been seriously broached at this level) through both conservation and utilization of alternative fuels.

The increased exploration by PETROBRAS which had been initiated with the proclamation of the "self-sufficiency" policy in 1969 had begun to bear some fruit in these years, although the immediate effects on the domestic oil situation had been minimal. In both 1973 and 1974 PETROBRAS announced that significant discoveries had been made on the continental shelf which could, potentially, raise production by three to five times within five years. Based on these preliminary findings the government's estimates of the country's oil reserves increased dramatically.

These "findings" produced a spate of optimistic projections

by government spokesmen which no longer questioned whether or not self-sufficiency would be achieved but rather speculated on how soon this goal would be realized. The comments of Minister of Mines and Energy Ueki are typical of this trend. After initially predicting self-sufficiency in the "medium term" in early 1976 he later firmed this estimate up to the specific date of 1985--a projection which presumed a doubling of domestic production by 1980, and a further 60% increase by 1985.<sup>29</sup> Most of these projections however were based upon "discovery trends" and not proven finds; and while off-shore production significantly increased as a proportion of total domestic production in these years, the fact remained that overall production progressively declined as well.<sup>30</sup>

That the oil situation had perceptibly worsened in the government's eyes was borne out when, in the midst of PETROBRAS' announcements of new discoveries, President Geisel made known in late 1975 that international oil companies would be allowed to explore for oil in Brazil by entering into contracts on a risk basis with PETROBRAS. Under these agreements PETROBRAS will receive exploitative rights to all the oil which is found while the international oil company gets a fee for its services. Little was immediately accomplished in this area but by the end of 1976 a number of oil companies had contracted to explore in Brazil on both on-shore and off-shore locations. To those familiar with the situation, the significance of this decision as an indication of the government's view of the gravity of the oil problem could not be underestimated. It now allowed substantial

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foreign involvement in an area which Brazil had long husbanded as a sovereign domain and was perhaps the most telling sign of how desperate the government's search for oil had become.<sup>31</sup>

While the search for new sources of petroleum received the greatest attention in this period the government also began to initiate some efforts aimed at both fuel conservation and the use of alternative fuels to oil. In the electric energy field there was a move to convert diesel powered generating plants--which accounted for approximately 10% of production--to coal, a purpose for which the low quality Brazilian coal was suitable. A program of increased exploration for coal and for its conversion into gas for power generation had been implemented by 1976, but the inefficiencies of the coal industry continued to be the major obstacle to its greater utilization.

The government also took its first action in an attempt to cut gasoline consumption which, with the rapid expansion of the Brazilian automobile industry, had been a major contributing factor to the progressive rise in petroleum consumption. The government implemented a pricing policy in late 1975 which was designed to reduce gasoline consumption by merely adding a non-returnable tax to its price at the pump. This measure met with some public resistance and had no significant effect in 1976 as gasoline consumption rose again.

One major innovation in this area which did achieve some level of success was the National Alcohol Plan (PROALCOOL) which was also launched in late 1975. The Plan's purpose was to reduce gasoline

consumption by substituting anhydrous alcohol to an eventual level of 20% in gasoline. The prospects for this Plan appeared sound as Brazil had available an abundance of sugar cane and manioc from which the alcohol could be processed and, more importantly, the proposed additive level could be reached without any retooling of the automobile engines sold in Brazil. The most important obstacle to the Plan was the state of the alcohol industry in Brazil which had to be quickly revitalized to meet the increased production demands which the program would entail (i.e. to reach a 10% additive level the amount produced in 1974 would have to double).<sup>32</sup>

The crisis worsens: 1977 to present. The past two years have seen Brazil's total energy situation become more precarious as the energy program embodied in the Second Plan has met with some serious setbacks and delays in implementation which have served not only to defuse the optimism that accompanied its launching, but to also call into question the logic of the entire energy program's strategy.

The case of petroleum remains the most critical as the relationship between domestic production and consumption continues to deteriorate, with domestic production in 1977 falling to 17% of total consumption. Preliminary estimates on the first half of 1978 also appear to indicate that the situation has worsened as production fell slightly while the consumption and import of petroleum both rose over the same period in 1977.<sup>33</sup> Imports in 1977 reached a cost of US\$4 billion, fully one-third of total export revenues, and, after a slight fall-off in 1978 are expected to cost \$7.5 billion in 1979 as well.<sup>34</sup>

The primary response to the oil situation continues to be an acceleration of PETROBRAS' off-shore exploratory drilling. The company's drilling more than doubled between 1973-1977 and an additional \$2 billion has been committed for exploration between 1978-1981. The fruits of this effort have, however, been increasingly questioned in recent years and been subject to widely different interpretations of success and potential. At the least, the unrestrained optimism produced by the initial continental shelf finds has been decidedly silenced as, according to one account, their promise had yet to be filled by mid 1978: "Though PETROBRAS and the foreign companies drilling under risk contracts are optimistic, no evidence has yet surfaced of really major oil deposits."<sup>36</sup>

In addition there are conflicting assessments of Brazil's reserve situation which dispute whether this situation has improved significantly in the past two years. The most recent government figures, for example, put "proven reserves" at approximately 1,118 million barrels at the end of 1977 with 56% of these reserves now located off-shore, a significant increase over the 1976 level. A number of outside sources put the "proven reserve" level considerably lower, however, primarily due to questions about the reliability of some off-shore discoveries; two of the most recent put Brazil's "proven reserve" level at approximately 880 million barrels--a figure not substantially different from the 1976 level.<sup>37</sup>

Besides these questions about supply PETROBRAS has failed to make any dent in imports through increased production. The recent

production decreases have been caused in part by the increasing depletion of the on-shore oil fields which has outdistanced increases in off-shore production. Although off-shore production has continued to increase as a proportion of total production (reaching 33% by mid 1978), PETROBRAS has failed to bring off-shore fields into production as quickly as it expected. The company has encountered serious difficulties in extracting oil from the continental shelf which has both caused delays and driven the costs of obtaining the oil high above original estimates. A prime example is that of the Campos oil fields--once heralded as the greatest oil find in the country's history--where it will cost, according to PETROBRAS, an estimated US\$2 billion to bring them into service by 1981, a figure more than double the original expected cost.<sup>38</sup>

In the face of PETROBRAS' difficulties the government has put a greater emphasis on measures to limit oil imports, again primarily by attempting to cut gasoline consumption through pricing policies and the acceleration of the PROALCOOL program. A more stringent conservation program was instituted in January of 1977 which had the announced goals of reducing gasoline consumption by 10% and fuel oil consumption by 20% within the year, thereby saving an estimated half billion in import costs. Under this program a tax was added to the cost of gasoline increasing its price by 20% which, hopefully, would prove to be an incentive to both conservation and the use of substitute fuels. The program had some moderate success in 1977 as gasoline consumption fell (unfortunately this was almost totally

offset by an equivalent falloff in domestic production) and it was followed by new initiatives in 1978 which aimed specifically at encouraging substitution of coal for fuel oil in industry, by utilizing both financial subsidization and a government guarantee of an improved, dependable national distribution system for coal. An additional incentive was the continued employment of a government pricing program which raised the price of gasoline and fuel oil by 15% in February of 1978, with another price rise planned for August as well.<sup>39</sup>

The most successful aspect of the government's program to cut gasoline consumption has been the PROALCOOL plan which has been accelerated and is now ahead of the scheduled plan to replace 20% of gasoline with alcohol by 1980. While possibly the brightest part of the government's energy program it too has been subject to some recent criticism, particularly by the World Bank which criticized it for being "uneconomic", since, with current technology, alcohol costs approximately twice as much to produce as gasoline. This brought forth a reply from the Planning Minister Joao Paulo dos Reis Velloso, who declared that the World Bank had not understood the program, for "energy self-sufficiency", not economic logic, was the rationale behind the program. Still the Brazilian hope is that improved production technology will reduce the cost differential and make alcohol a good economic alternative as well.<sup>40</sup>

The other major phase of the government's energy program which is focused on the electrical energy field has also encountered seri-

ious difficulties in its implementation stages which, while not having the immediate impact of developments in the oil-related areas, do not bode well for the future. The more important developments have occurred in the nuclear program where, it appears, much of the initial justification for the choice of the nuclear alternative has been undermined.

In March of 1977 President Geisel had issued a detailed statement in which he explained and justified the government's somewhat surprising commitment to the nuclear option. The need for energy self-reliance, which was couched in both economic and strategic terms, was the ultimate justification for the program: ". . . Brazil needs to secure a constant, reliable supply of energy for its economic development and for the well-being of its population."<sup>41</sup> Electricity had a key role as part of the new energy mix which the government had chosen but, according to Geisel, the hydroelectric option which had previously been the mainstay of Brazil's electric production was now approaching its "natural economic limits". He made clear that this judgment was based upon current consumption patterns where the prospects were for the exhaustion of hydropower resources in the next decade in most industrial regions of the country, where nearly 80% of electrical demand was concentrated. Based upon these considerations Geisel concluded:

The Government considers nuclear energy to be the only viable alternative, in view of the technical reliability it has already reached on a commercial scale as well as the competitiveness of its production costs against the new backdrop of the oil economy.<sup>42</sup>



This rationale for the nuclear program has, however, been severely weakened by a number of problems which the construction phase of the program has encountered in the past two years. Construction had begun on three plants in 1975 and all were to be completed by 1984, but greatly increased costs and construction difficulties have already set the program back at least three years. As President Geisel mentioned, comparable costs had originally been an important factor in choosing nuclear production of electricity, but by 1978 costs had become a major factor undermining the program's viability. According to recent knowledgeable estimates the cost per kilowatt of installed capacity for the plants under construction in Brazil is now one of the world's highest for the type of reactor involved and the total cost of the nuclear program has doubled since 1975 to a current level of US\$12 billion.<sup>43</sup>

Major construction problems have also been encountered on Angra I (the first plant expected to begin operation) including cracks in the foundation, which have been caused by the geological weakness of the plant's construction site. These problems have resulted in both delays and increased costs which have now led to charges of poor planning and site selection being levelled at the government's nuclear agency.<sup>44</sup>

To compound matters there has also been a growing disagreement between West Germany and Brazil over the workings of the 1975 agreement. The central issue has been the increased West German concern over the actual amount and quality of Brazil's uranium reserves

which was a primary motivation for its entering into the agreement. The latest government figures released by Nuclebras are again the most optimistic, putting "proven reserves" in November 1978 at 142 thousand tons, more than double the level at the end of 1977. There are serious doubts, however, about the recoverability of these deposits over the short-term as most are located in the Amazon. More importantly, there are also questions concerning their quality and thus their suitability for usage in standard nuclear plants. Despite the Brazilian government's positive opinions on both of these points, West Germany's doubts have increased and the latest indications are that it will ask for greater assurances on these points and a renegotiation of the 1975 agreement to reflect the changed circumstances.<sup>45</sup>

In view of these difficulties with the nuclear phase of the energy program the hydroelectric area has retained its important role and become more prominent in the government's most recent policy plans. A National Electricity Plan, announced in May 1978, provides for the building of 14 hydropower plants, 3 nuclear plants, and a number of thermal plants in the 1978-1987 period. By 1977 hydropower had increased its share of electrical output to 92% with thermal sources providing the remainder, and the new program appeared to recognize that it will have to bear the burden of increased demand for a significantly longer period than was envisioned in the Second Development Plan.<sup>46</sup>

Nevertheless, the hydroelectric area has not been without its

difficulties recently. The most important project in this area, the Itaipu plant, has experienced both massive cost increases and political problems in the past two years which have delayed its completion date and jeopardized its future successful operation. From an initial estimate of US\$2 billion in 1973, the costs of the project had reached \$8 billion in 1978 and were expected to be in the neighborhood of \$13-15 billion by the time the project is completed in the mid 1980s. Adding to these problems have been recent demands by the Paraguayan government to renegotiate the level of financial compensation which it will receive from Brazil once the plant starts operation. This will further increase the costs of the power generated by the plant, a cost which will be borne largely by Brazil, to whom the electricity is decidedly more important.<sup>47</sup>

Finally, the problem of the unequal distribution of electrical energy and its retarded development in some regions of the country remains, and last year had more serious consequences for the country's development. In 1977, for example, 79% of electrical consumption was accounted for by industry, with only 14% going to residential usage, and the remaining 7% to commercial uses. The worst drought that the country had experienced in three decades occurred in 1978 and had a disastrous effect on the industrial and agricultural heartland when hydropower plants were forced to cease operation. This revealed an oft-neglected aspect of the country's electrical system as power from the north could not be transferred to the south due to the lack of sufficient linkages within the system, and, more importantly,

to the failure to adequately develop energy resources in the non-industrial regions.<sup>48</sup> It was a symptom of one of the fundamental weaknesses of Brazil's urban-oriented energy system and of the energy policy which continued to foster it, illustrating, in this case, that the unbalanced growth of the past fifteen years would have serious consequences for the country's developmental health when all conditions were not at their optimum.

### Population

Background to the population situation. As the world's fifth largest and sixth most populous state Brazil has been a popular subject of those analyses which approach the population issue at the global level. The concern is understandable, for Brazil has been conspicuous among the nations of the world as a state with a large and rapidly expanding population whose growth rate since World War II has been one of the highest in the world (i.e. Brazil's population doubled between 1950-1973 at an average annual growth rate of 3%). But as in the case of Tanzania, the macro-level demographic measures contribute little to a total understanding of Brazil's population conditions and even less to an understanding of the government's perspective on this issue. The key aspects of the population situation in Brazil which have had the most determinate affect on policy have been the internal variabilities among the major demographic characteristics and the age structure of the populace.

It is once again necessary to begin with a caveat about the

reliability of the basic data which is currently available on Brazil's population. For example, the Instituto Brasileiro de Geografia e Estatística (IBGE), the government's primary statistical gatherer, acknowledged in 1974 that the data available on births and deaths in Brazil was still imprecise due to the incomplete registration of these events throughout the country and they concluded that in speaking about developments in these areas, "considerable allowances must be made for margins of error". Infant mortality rates are uncertain as well, producing a situation where, in the view of some analysts, "the estimation of the effects of changes in these rates on future trends in Brazil's population or its characteristics is dependent on guesswork more than on hard data".<sup>49</sup> Given this context references to statistics can only indicate general trends, not accurate depictions of the reality.

The most recent estimates put Brazil's population at 120 million in mid 1978 with an annual growth rate of 2.8%, which is down from a rate of 3% in 1960-1970. The birth rate is relatively high at 38 per 1000; the death rate is comparatively low at 10 per 1000; and the life expectancy has increased significantly in the past decade to 64 years. Infant mortality is estimated to be at 110 per 1000 and has apparently worsened in recent years, becoming a major health problem in some cities where it has reached rates of 467 per 1000. Over the past three decades Brazil's population has become progressively more urbanized, increasing from 36% of the population in 1950 to an estimated urban population of 62% in 1975, a trend which is



expected to continue in the near future. In gross terms, however, the country is not overpopulated with an average density of 13 persons per square kilometer in 1977, a measure which in itself tells you less about the demographic situation of Brazil than any other.<sup>50</sup>

The two aspects of Brazil's population situation which have had the greatest affect on the government's perception of this issue are the geographic maldistribution of the population which has produced wide internal variations among the major demographic characteristics, and the age-structure's increasing youthfulness, which has become the most important population-related concern of the current government.

Brazil is similar to most other Latin American states in that its population has always been highly concentrated along the coastal regions of the country. In 1960, for example, approximately 93% of the population occupied an area constituting only one-third of the total land area. The persistent flow of rural to urban migration over the past decades has exacerbated this distribution problem and despite recent government attempts to settle the uninhabited interior regions of the country, it has not been measurably altered. The most immediate effects of this settlement pattern is its undermining of density figures, growth rates, and birth, death, and infant mortality rates at the national level. The last full census in 1970 revealed wide fluctuations among all of these major demographic measures at the regional, state, and local levels and more recent findings have indicated that the disparities have worsened in many cases. Regional density figures, for example, fluctuated from 1 person per square



kilometer in the North to 52 in the Southeast in 1977. Among states the differentials were even higher. The 1970 census also found that the urban population growth rate was much higher than the rural at 5%, which ultimately reflected the considerable differences among birth and death rates as well.<sup>51</sup>

But perhaps the most important in this area is the age-structure of the population. By 1970, 42% of Brazil's population was under the economically active age of fifteen with another 3% over the age of sixty-five. In national terms this development has created an increasing burden for the employable age groups which by 1970, according to one observer, had resulted in a situation where there were 82 dependents (under the age of fifteen and over sixty-five) for every potential 100 wage earners.<sup>52</sup> As will be seen, this is one aspect of the population which has drawn increased government attention--for it has had an immediate affect on the economic health of the country, which has become more apparent with the slowing of economic growth in recent years.

Population as a non-issue: 1964-1973. Throughout its history as an independent state the availability of an abundant supply of unpopulated land has been the major factor influencing a government policy in this area which has been traditionally pro-natalist in character. Historically, population growth has been seen as an essential, positive aspect of the country's economic development which was necessary to fully exploit the country's natural resources and, by filling out its borders, to preserve the national security. For primarily these

reasons population growth has normally been encouraged in Brazil as an unchallenged benefit to the nation's development. This was a perception of the population situation which did not change under the first two military Presidents, Castelo Branco and Costa e Silva (1964-1969)--if anything it became more prominent with the military's pre-occupation with national security.

There were a number of indications that the traditional view of the population "issue" still held official sway in this period. For example, one could still find the Ministry of Labor and Social Welfare enforcing a series of pro-natalist financial incentives which included among them monthly bonuses paid to families for each child born after the first six, maternity bonuses for federal employees for each birth, and monthly stipends for each child under eighteen years of age.<sup>53</sup>

According to a number of accounts, in this period population control was, for all practical purposes, a forbidden public topic. "Officially sanctioned" discussions of population-related questions in the 1960s focused most often upon the aspects of redistribution, migration, or its effects upon the labor force. With the increasing economic growth rate as a backdrop, the underlying presumption of the large portion of this public discourse was that if a population problem existed, it was one of under not over population, given the context of the country's developmental needs.<sup>54</sup>

Perhaps the clearest public indication that the views on population growth had not changed in this period came in the form of a letter which President Costa e Silva conveyed to Pope Paul VI, upon the

publication of the Pope's pro-natalist encyclical *Humane Vitae* in 1968:

In the name of the people and the government of Brazil I express to Your Holiness the joy and gratitude occasioned by the encyclical in which the supreme voice of the Church gives the appropriate condemnation of the anti-Christian methods of birth control. As a leader of a country which is still seeking to occupy more than half of its territory, and still exposed to the risks of population density which is incompatible with the global necessity of development and security, I applaud this notable document.<sup>55</sup>

While this statement by the President made a somewhat superficial reference to the traditional themes associated with the government's perspective on the population question, the views expressed by government officials in international forums at this time made a more forceful and substantive connection between population growth and economic development. The views of the Brazilian representative to the United Nations' Economic Commission, made in response to the calls from the industrialized states for population control in the less-developed countries, typify this position:

. . . in the Brazilian case, preliminary studies in this matter indicate that at least one-third of the growth of our income is directly attributable to the increase of the population. In general the least one can say is that there is an undeniable relation between the growth of income and the growth of population, and this relation ought to be closely analyzed and understood before the under-developed countries are inundated with propaganda and methods to reduce population growth.<sup>56</sup>

Indeed, with Brazil's gross economic growth rate averaging close to 11% over the 1968-1974 period, the government liked to point out that Brazil was the exception to the argument, made by many demographers, that a rapid population growth rate was an obstacle to economic

growth.<sup>57</sup>

In addition, the preliminary results of the 1970 Census appeared to lend more support to the view that government intervention was not necessary to control population growth, as it had slowed to about 2.8%, down from the 3% of 1960. The initial flush of the census results produced a number of public statements by government representatives which now denied the existence of a population "problem": "The phantasm of excessive demographic growth does not exist anymore, since it is known that the index of growth dropped from 3% in the past decade to 2.7% presently." and the relevance of the population control issue to the Brazilian context: "The question of limiting birth ought not to even merit our attention in the present state of Brazil's development. This control will come in its own time and will be exercised by each one individually."<sup>58</sup>

Interestingly, the only notable exception to the succession of optimistic appraisals of Brazil's population situation by the government in this period also came in response to the findings of the recent census. In his comments on the results of the census, issued in mid 1970, President Medici appeared to make a major departure from the traditional government interpretation of the country's population situation when he acknowledged that rapid population growth was a reality for Brazil which could have negative consequences for the country's development:

The Brazilian public figure cannot copy lines of politico-administrative action of peoples with gradual and controlled population increase if our reality is demographic explosion . . . He who speaks of a demographically young

nation discerns the economically active minority in contrast with the immense contingent in which consumption surpasses production . . .

But when it came to recommendations for remedial action the President assumed the traditional laissez-faire attitude which saw no appropriate role for the government:

It violates our sensibility for the State to undertake as its problem control of natality, when we are convinced that it can only enter the intimacy of the family through education respecting the inalienable power of decision of each one.<sup>60</sup>

While this recognition of rapid population growth as a reality was interpreted by some as a significant change in the government's perception of the issue, especially when compared to the position of Costa e Silva two years earlier, no significant government activity in the population control area followed.<sup>61</sup> What little activity there was confined itself to attempts to redistribute some of the population to the interior regions of the country, primarily in the Amazon.<sup>62</sup> Despite Medici's comments, the population issue did not assume any great importance and, in the judgment of one recent study, remained largely a non-issue through 1972-1973 as the continued economic success overrode any pressing concern with the situation.<sup>63</sup>

A policy defined: 1974-1975. In comparison to past years 1974 saw a considerable increase in the amount of attention which the government was devoting to the population area. The most significant development which occurred during this year was the emergence, for the first time, of a clearly defined policy on population. Although the year was to see no substantive change in governmental activity



on this front, the process of articulating a policy, which had in the past been a largely implicit one, resulted in some of the traditionally unquestioned benefits of population growth being more critically investigated.

This process was initiated by Brazil's participation in the World Population Conference at Bucharest where its representative presented the most detailed explanation of his government's position then available. There were few indications beforehand that the Brazilian delegate to the Conference would say anything new in his presentation for at the pre-Conference preparatory meetings he had been an outspoken opponent of any type of population control, especially when it was prescribed by the developed countries as a "solution" to Third World problems.

At the Conference itself much of what the Brazilian delegate, Miguel Ozorio de Almeida, did say followed the expected traditional government position. Population growth continued to be viewed by the government as a positive contributor to the nation's economic development, national integration, and security. The growth of the population fulfilled these purposes by creating the large internal market that the economy needed and by providing the manpower which was necessary to guarantee the development of the agricultural and mining potential of the country's interior--all of which were identified as essential aspects of preserving the national security.<sup>64</sup>

Given this premise the demographic policy which his government had formulated was, according to the Representative, to be utilized



as a tool for understanding the nation's potential development. Its primary goals at this time were to lower both the mortality and infant mortality rates, and to achieve a more balanced regional growth. He made it clear that control of the population growth rate was not an aspect of the current policy because:

The data available indicate that Brazil will be able to absorb the foreseeable demographic increments, and, further, that their growth is even to be considered as a necessary element for economic development, for national security, and for the integration of vast empty stretches of national territory into national production.<sup>65</sup>

The one indication in Almeida's statement of a possible change in the government's position came in the last paragraph when he made reference to what he termed "an individual's right to family planning information" which the government had the responsibility to assure was available to all equally. While still maintaining that any decision regarding birth-control was to be made within the family without government interference, Almeida appeared to indicate that the current government had committed itself to an active role in providing every citizen with the knowledge to make such a decision.

The situation was expected to be clarified with the publication of the Second National Development Plan which followed close on the heels of the Population Conference. The Plan was notable in that it contained the first explicit proposal of a national policy in the population area within the context of national planning. As in the past the Plan still viewed population size as a key to achieving the objective of fuller national integration through the inhabitation of

unsettled lands and, at the international level, Brazil was still placed at the underpopulated end of the spectrum. But for the first time the Plan also acknowledged that there needed to be a major effort to increase employment and earnings opportunities--if the full potential of human resources presented by the population's growth were to be effectively utilized--for the pressures of population growth on per capita income and social services were potentially damaging if these opportunities did not continue to expand adequately.<sup>66</sup>

Once again, though, when it came to programmatic proposals in these areas the Plan made it evident that the government's demographic policy would not substantially change:

. . . Brazil's demographic policy is to respect the right of each family to decide how many children they want, and to offer information which will allow them to examine the question fully.

Families have complete<sup>67</sup> freedom to choose the number of children they desire.

The Plan contained no mechanisms by which such a national information system would be created, however, and, although it established specific "growth rate goals" for the life of the Plan, their achievement was to be dependent upon a hopeful volunteerism, not effective government action:

It is hoped that by allowing each family to make its own decision, taking into consideration their moral conscience and socioeconomic conditions, Brazil will achieve a population growth rate that will reconcile the various needs and demands.

It is hoped that during this decade the population growth rate will decline, with the average between 1970 and 1980 being 2.7-2.8 percent. In the following decades, the decline should become more rapid.<sup>68</sup>

.In sum, the Plan laid out the outlines of what is best described

as an ambiguous demographic policy. On the one hand, it appeared to depart from the previous position by recognizing that there was a two-sided relationship between "population growth" and the economy's capacity to expand but, on the other, it seemed that this was still an acceptable trade-off for the benefits derived from expanded markets and adequate labor supplies--the positive aspects still outweighed the negative. The measurable affects on policy were minimal; it remained a laissez-faire one with respect to population growth which only left the door open to public commitment and support of family planning on the grounds of equal access to family planning materials--a commitment which did not materialize in the near future.

Population policy since 1975. Under the Second National Development Plan the government's activities in the population field have not significantly increased. The "program" outlined in the Plan has not materialized and at the national level there has not been any attempt to pursue the goal of "providing couples with the necessary information to make family size decisions". It is difficult to pinpoint the exact reasons for the government's neglect in this area but among those which have been suggested, the deteriorating economic situation appears to be the most important. Along with what could accurately be judged as a lack of commitment in this area from the beginning, it appears that the worsening economic situation has made many of the Plan's objectives unrealizable and the lower priority ones, like the population area, have suffered from a lack of funds.<sup>69</sup>

. Below the national level, however, family planning activities

have increased recently and are becoming more integrated into health services at the state and local levels. The large majority of this family planning activity has been initiated by the Brazilian Society for Family Welfare (BENFAM), a private organization which was founded in Brazil in the 1950s and which receives considerable outside assistance from organizations such as the International Planned Parenthood Foundation. BENFAM's original goals were to work for the right of all families to have access to family planning information and to promote "responsible" parenthood.

The activities of BENFAM had expanded considerably from 1964-1974 when the number of family planning clinics which they sponsored grew from 9 to 102. But the organization's goals were altered somewhat in 1974 on the basis of the leadership's overly optimistic appraisal of the government's intentions in the population area. At this time BENFAM believed that one of its primary goals was going to be taken on by the government, as a statement by its Executive Secretary in 1974 indicates:

Family planning has not yet been incorporated into the government's service network, but in view of the statements in the Second National Development Plan and at the World Population Conference, this step is expected in the near future.

Upon this basis BENFAM adopted a strategy which it hoped would result in a shifting of the financial burden for its clinical operations over to the national government under a family planning program. In Dr. Rodrigues words:

BENFAMS plans for the next three years will be aimed at convincing decision-makers that Family Planning

is an effective public health measure that will have direct and favorable effect on the economic<sup>71</sup> and social interests of the country and its security.

In short, the strategy was to try to translate family planning into terms which were acceptable to the military government.

This campaign has not produced any startling achievements at the national level but BENFAM has redirected much of its efforts at the state and local government levels where they have been more successful. The organization has been able to transfer the costs of operating its clinics over to local governments in a number of areas where, under its agreement with the involved officials, BENFAM provides only the technical assistance for family planning services. These increased activities in the family planning area have been interpreted as an indication of, at the least, a tacit approval of these services at the national level where, it is suggested, a more active commitment will eventually be forthcoming.<sup>72</sup>

### Food

Background to the food situation. Among the issues discussed in this chapter the food "issue" has received comparatively little attention as an important domestic issue by the government over the last decade. Although one would expect that with its burgeoning population the maintenance of an adequate food supply should be a priority for Brazil, the present government has not seen fit to view the domestic food situation as a crucial concern. Recent developments in world food conditions have, however, exercised a considerable if indirect



influence over Brazil's domestic food situation; for they have precipitated a export-oriented policy response toward agriculture which has, ultimately, significantly undermined the nutritional status of a large portion of the Brazilian population.

Despite a history of government neglect Brazil's agricultural sector has been able to progressively expand its productive capacity enough to supply the country, in gross terms, with adequate amounts of the basic foodstuffs that were essential to the majority of the population's diet.<sup>73</sup> This has been a considerable achievement in a country where the population growth rate has been around 3% annually over the past three decades. In fact, Brazil is nearly self-sufficient in producing all of its staple crops; the one important exception is wheat, where imports have traditionally constituted a large portion of total consumption.<sup>74</sup>

Since World War II the growth of the agricultural sector has been both impressive and consistent, with production increasing at an annual rate of 4% between 1947-1963 and then reaching a nearly 6% average from 1968-1974. It is all the more impressive because it is generally acknowledged that this record was achieved despite the obstacles of a government policy which has generally been indifferent to the agricultural sector's needs (the only exceptions, as will be seen, are in the area of the major export crops, primarily coffee and soybeans), and the persistence of land-holding patterns and cultivation methods which are still widely described as traditional and primitive.



The agricultural sector has been long-neglected by Brazil's governments, regardless of their ideological character, and this neglect became even more pronounced after World War II when the growing pre-occupation with industrialization took hold. Indeed, under the current military regime's developmental orientation, it has been argued that this trend has perceptibly worsened as the agricultural sector has been forced to sustain its overall growth in the face of industrial-biased policies adverse to its development.

Under the military, when the government has turned its attention to agriculture it has done so primarily to enhance the export capacity of the sector, an approach which has done increasing harm to the development of the domestically oriented food-producing sector. While periodic food shortages still occur in some regions of the country--most notably in the Northeast--their causes have most often been attributed to either a lack of infrastructure (transport and storage facilities) or inefficient marketing practices, rather than as a sign of some fundamental weakness in the food production and distribution system.<sup>75</sup> As such, Brazil's domestic food situation has not been an object of serious concern to the military government. While it is clear that the export-orientation of its agricultural policy, along with the affects of developments in the world's food situation, has had serious consequences on the quality of life of most Brazilians in the 1970s, the government's essentially benign view of the domestic food situation has remained unaltered by these events.

In addition, the agricultural structure has remained fundamentally

the same over the past three decades, as neither the patterns in land ownership and utilization nor the dominant methods of cultivation have changed significantly. The landholding system is characterized by a pattern of highly unequal land distribution which finds large estates and extensive farming techniques predominant, as the traditional views of land as an investment and a hedge against inflation still prevail among the owners of the larger holdings.

The most recent agricultural censuses by the government have revealed that the trend toward larger estates and the concentration of land ownership has in fact increased under the military, while the rural labor force has become increasingly made up of landless tenants, sharecroppers, and wage laborers.<sup>76</sup> Along with this increase in larger holdings the recent surveys have also found that the best land, primarily occupied by the larger estates, remains the most underutilized. In actuality, there is an inverse relationship between the size of the holdings and their degree of utilization, with the smaller minifundios being the most intensively cultivated and contributing a much larger share, proportionally, to total production.<sup>77</sup>

As a consequence the dominant methods of cultivation used by Brazil's farmers remain--particularly in the food-producing sector--the primitive, labor-intensive techniques characteristic of a hoe agriculture. An observation on the state of Brazil's agricultural techniques made quite some time ago by the late T. Lynn Smith, a noted scholar on Brazilian society, is still not far off the mark:

. . . I became convinced that in the 1950s fully half of all Brazilians engaged in agriculture were using ways of getting products from the soil that were less effective or more antiquated than<sup>78</sup> those in use by the Egyptians at the dawn of history.

The persistence of the traditional structures is the factor which is most often cited in perpetuating a situation where agricultural innovation is stifled, where all crops are characterized by productivity levels that are uniformly lower than under similar conditions in other parts of the world, and, where productive results--again specifically among the food crops produced for domestic consumption--are still highly subject to the vagaries of the weather and soil conditions.<sup>79</sup>

In spite of all these disadvantages, however, the one positive quality of the abundance of uncultivated land and the seemingly inexhaustible supply of resources it presents has enabled Brazilian agriculture to sustain its increased production. Although Brazil's prevailing soils are generally low in fertility and relatively unresponsive to known techniques for increasing productivity, the wealth of suitable land has allowed agriculture to expand at will into the interior and frontier areas of the country in response to the growing demand for its products. This facility has allowed agriculture to effectively circumvent all of its aforementioned drawbacks since World War II, for virtually all increases in production over the past twenty-five years are directly attributable to the expansion in land under cultivation (see Table 10).<sup>80</sup>

This abundance of land has also been a determinant factor influencing government agricultural policy in this period as well. The

TABLE 10

YIELDS OF MAJOR FOOD CROPS, 1968-1977  
(in kilograms per hectare)

Year	Wheat	Maize	Rice	Manioc	Dry Beans	Potatoes	Sweet Potatoes	Soybeans	Coffee
1968	880	1347	1490	14500	660	7100	11600	910	-
1969	980	1315	1380	14800	600	6800	11700	1170	-
1970	973	1442	1517	14553	635	7394	11804	1144	314
1971	943	1336	1384	14762	668	6937	12001	1244	695
1972	424	1413	1491	14762	659	8515	12157	1612	581
1973	1105	1418	1495	12580	584	7558	11450	1386	420
1974	1157	1582	1557	12309	521	9227	9227	1531	673
1975	610	1562	1428	12300	548	8661	9095	1699	467
1976	906	1612	1451	12698	483	9622	9351	1750	287
1977	710	1637	1656	11871	510	9803	11489	1714	480

SOURCE: United Nations, Food and Agriculture Organization, Production Yearbook, 1969-1978.  
Rome: UNFAO, annual.

effort to increase the area under cultivation has in fact been the primary technique by which the government has attempted to influence production levels while increased productivity and better utilization of land have drawn less attention. Although there have been intermittent efforts to implement "land reform" programs which have had the latter two goals in mind, the preferred route has been to emphasize the politically more palatable route of colonization of unsettled lands as the primary means of dealing with the problems of rural unemployment and landlessness which have become more widespread in recent years.<sup>81</sup>

Agricultural policy 1964-1972. Until around 1969 agricultural development was almost exclusively dependent upon private initiatives as all the important sectors of agriculture remained in private hands. The limited measures which the government attempted to implement had little apparent impact on agricultural output. The policy was essentially a crisis oriented approach which was only activated when the agricultural sector's performance as an intermediate industry providing raw materials for industrial processing was lacking, thereby interfering with the push to industrialization.

The techniques which the government employed in dealing with the agricultural area consisted of a mixture of market mechanisms, subsidization of inputs, and credit expansion. During Castelo Branco's term for example, the problems of the sector were generally diagnosed as both low productivity and inadequate production; the government's response was a plan to initiate new incentives for

private investment in agriculture, including as its most important part a minimum price program which, it was hoped, would stabilize chronically unstable prices and thereby increase both investment and production.<sup>82</sup>

When Costa e Silva assumed office in 1967 there were more frequent public indications that the military government was going to give more attention to the persistent problems of the agricultural sector. Although the new pronouncements included among their goals the production of: ". . . an adequate food supply at prices that would stimulate producers without being burdensome to consumers", the diagnoses and prescription for the problems remained the same.<sup>83</sup> What had begun to change was the increased emphasis on the potential export role for agriculture, which gave much of the impetus to the government's programs of credit expansion, minimum prices, and incentives for mechanization and fertilization.

While this new policy involved a more active role for the government in the agricultural area--especially when compared to the previous neglect--there has been much debate about the ultimate effects of these programs on productivity. A more frequent explanation for the continued growth of the sector suggests that the external factors of favorable world prices and demand contributed more to the improved performance of agriculture in this period than did the government's policy. As one analyst has observed:

. . . Brazilian agriculture has performed remarkably well over the 60-70 decade, that it did so is far more attributable to the enterprise and energy of the Brazilian farmer than to the sporadic crisis-



oriented policy of the government.<sup>84</sup>

The results of the government's policies within the agricultural sector itself were less open to question. It was becoming increasingly clear that the government's strategy had served to accelerate an already unbalanced growth pattern between the export-oriented and food-producing domestic-oriented sectors. The more modernized and commercialized farmers, located in the East and South Central regions, responded much more favorably to the incentives of the government's programs than did the staple food crop producers whose cultivation methods remained comparatively primitive, and the evidence available in the early 1970s unquestionably showed that the benefits were highly disproportionate.<sup>85</sup>

The growth in agricultural exports in this period reflected the bias of the agricultural sector's development, as exports tripled between 1964-1972 after being stagnant for the previous decade. While the total production of all major crops increased in this period the proportionate increases in export-crop production were significantly higher than in the food crops. In addition the few significant "productivity" increases which were achieved involved export crops while the productivity of the major food crops remained stagnant or even declined (see Table 10).<sup>86</sup> The basic food crops showed little improvement in production techniques as with dry beans, oft-cited as the primary source of protein for the rural population and the lower income urban groups of which it could still be said in 1974: "almost no technology is used . . . , despite its importance as a

food."<sup>87</sup>

The growth in the popularity of export crops which was encouraged by the government was also to have consequences for the domestic food situation which were only beginning to be recognized in the early 1970s. The increased commercialization had led to the supplanting of food crop growing by export crops around many of the urban areas at the same time that the increased urbanization was driving up the demand for food products. Due to the better financial return for the commercialized crops, subsistence food growing became a less than attractive economic alternative in many cases.<sup>88</sup>

As a result, the growing of food for the domestic market was driven further inland into the interior and frontier areas away from where the demand for food was centered. This was a trend that was further strengthened by the government's approach to land reform which avoided real reform and, in its place, encouraged colonization of the unsettled frontier as an alternative to redistribution of already occupied land. The Program for National Integration (mentioned above) and the building of the Trans-Amazonian Highway were the major programmatic efforts of the government in this area. Although they were judged to have largely failed to achieve their goals, one of the consequences of the "colonization" philosophy was to make transport and marketing costs a major contributor to rising food production costs in the 1970s.

Ultimately, the effects of the government's policy on the population's accessibility to an adequate diet were pronounced. During

the 1960s the average daily caloric intake of the Brazilian people was among the world's highest, although it was acknowledged to be protein deficient and had a heavy starch content. But by the early 1970s both outside observers and government representatives had noted a significant decline in nutritional standards. The combination of rising production costs and stagnating levels of basic food crop production had reduced the nutritional quality of the average Brazilians diet.<sup>89</sup>

The effects of these developments were felt most severely in the poorer regions--like the Northeast where, in the early 1970s, the nutritional level was one-half to one-third below the national average--but were not confined to any one area. The Brazilian delegate to the Pan American Health Organization at a 1970 meeting included "conditions of malnutrition" as one of the most significant causes of mortality in infants and small children throughout the country. The fact was that the progressive increase in agricultural production over the past two decades had not eliminated serious food and protein deficiencies among the majority of the population, for the next few years was to see malnutrition recognized as a serious social problem affecting adults as well as children.

Agricultural policy 1973-1976: the push to exports. These years saw the agricultural sector assume a greater role in the government's overall development plans as the effects of the changes in the world's energy situation on the industrial sector became more apparent. Although much of the military's agricultural policy remained the same, the push to expand the country's agricultural exports became more

imperative as, in the face of persistent trade and balance of payments deficits, they became a crucial source of foreign exchange. The export strategy was, interestingly enough, to gain a new rationale in the government's eyes in this period when the developments in the world's food situation provided an increased financial incentive for export expansion. In government circles there was a growing awareness of the opportunity presented by the world "food crisis" for Brazil to assume a global role as one of the world's major exporters of food products.

The primary emphasis on "colonization" of the interior agricultural regions was continued under the agricultural policy set forth in the Second National Development Plan, albeit in a different form from that represented by the Program for National Integration and the Trans-Amazonian Highway which preceded it. The Highway, once the central focus of the Amazon colonization program, was barely mentioned in the new Plan and was replaced with the Programme for Agricultural and Agro-Mineral Nuclei in the Amazon Region (Polamazonia). The new Amazon program, along with Polocentro and Polonordeste, represented an attempt to both increase agricultural growth and achieve a more coordinated development among those regions not yet adequately integrated into the national economy. The Plan proposed an accelerated growth rate of 7% annually for agriculture over the next five years; but once again proposed the standard formula of land reform, the more rational use of land, and the expansion of the agricultural frontier into the Center-West and Amazon

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regions as the primary means for achieving these goals.<sup>90</sup>

Although the labels had changed however, it was soon clear that colonization would receive the most effort and that the purpose of the programs had retained their export orientation. A government description of the goals of Polamazonia is revealing in this respect:

. . . Polamazonia's aims are threefold: to increase the cattle herd of the area . . ., to support the growing of traditional crops of the region (rubber, sugar, cocoa, dende, fruit, pepper, and rice) . . ., and to carry out detailed surveys of the major mineral resources.<sup>91</sup>

The overall neglect of the domestic food producing sector continued under the new Plan, despite clear indications that the domestic food situation had deteriorated. From all signs, the government's perception of the "food issue" was conditioned by its external orientation as well. While little attention was focused on the domestic situation, references to a "world" food problem appeared more frequently in government statements which rationalized agricultural policy. The expectations were high that the changed world food situation had given Brazil a great opportunity to forge a role in the world's food market:

National conditions offer the basis for practically unlimited development. Brazil at this time shows every indication of becoming, if not the granary of the world, at least one of the major forces in averting world hunger.<sup>92</sup>

This appeal for Brazilian agriculture to fulfill its world role became increasingly popular in these years as the statements of influential government officials emphasized both the humanitarian and profitable opportunities which were being presented. An example of



the former type of appeal is that of the Minister of Agriculture,

Allyson Paulinelli:

. . . despite the huge food production of the United States and the prominent role it plays in the world supply, we continuously talk about food shortages in many areas of the globe. In fact it is not new to anybody that thousands of people die of hunger and malnutrition daily. Although several economic and political facts are co-responsible for these deaths, food production must be increased and stabilised if<sup>93</sup> we are to be proud of our accomplishments on earth.

While the latter sentiments are represented in the comments of a Ministry of Labor official: "Now that foodstuffs are coming to be recognized as one of the world's great riches owing to the increased scarcity, we should in fact be stepping up production."<sup>94</sup>

It was ironic that the effect of this outpouring of concern for the world food situation was the further undermining of the domestic food producing sector. The value of exports of food and live animals increased by 54% in the 1973-1976 period alone with meat and soybean products leading the way. The rapid development of the soybean industry is perhaps the best example of how food crop production was most influenced by external contingencies in this period. In this four year period soybean production doubled, its productivity increased by 26%, and the value of soybean exports increased by 87%-- a performance which far outdistanced that of any domestically-oriented food crop (see Table 10). Its acceptance as a food product among native Brazilians, however, was less spectacular; as one government publication wryly commented:

Despite Brazil's glowing performance, however, the average Brazilian is still unaware of the soybean's



nutritional value. He still has not accepted it as a complete food, like the Chinese and Americans have.<sup>95</sup>

In fact, the situation of some of the major domestic food crops significantly deteriorated in this period, with dry beans again the most prominent example. Both the total production and the productivity of the crop declined in these years, producing severe shortages in 1973 and 1976 which precipitated food riots in some areas of the country. Government neglect of the bean growers was a major contributing factor in the crop's decline; as one account noted, in 1976 when dry bean production fell 17%--while all other major crops registered gains--the bean growers received only 1% of the subsidy that went to export farmers.<sup>96</sup>

The poor performance of the domestic food sector had an immediate affect on food prices which continued to climb. The agricultural sector as a whole did not perform up to the expectations set forth in the Development Plan (averaging a growth rate of 3.8% in 1975-1976) as poor weather in Brazil and a declining demand in world market stunted the agricultural expansion. The government acknowledged that the rising food prices were a primary contributor to inflation which reached 26% in 1975 and leaped to 46% in 1976. The situation became critical for the Brazilian consumer in 1976 when food prices rose higher than the 46% inflation rate; at the time estimates were that the average Brazilian was spending nearly one-half of their wages on food. These developments had, in turn, exacerbated the incidence of malnutrition which had noticeably increased in the urban areas and was believed to be even worse in the rural areas.<sup>97</sup>

The food situation 1977 to present: a continued deterioration. In the last two years the limitations of the military government's agricultural policy have become more evident while the goals of the program outlined in the Second Plan have, as in the past, remained elusive. After an impressive recovery in agricultural growth to 9.6% in 1977--when Brazil became the world's second largest exporter of agrarian products--the agricultural sector experienced a disastrous year in 1978 when output fell by about 7%. Poor weather conditions, which hit particularly hard in the southeastern breadbasket states of Parana and Rio Grande do Sul who alone account for one quarter of total agricultural output, were acknowledged to be important causes for the poor performance. All major crops suffered serious production declines, in particular wheat and maize. The 1978 wheat crop was expected to be only 60% of the 1977 level, necessitating an increase in imports to provide for two-thirds of domestic consumption. In the case of maize, after exporting \$135 million worth of the crop in 1977, the government estimated that about \$100 million in imports would be required in 1978 to avoid sharp increases in its price.<sup>98</sup>

Although the poor weather was an immediate precipitating event, there was also increased criticism directed towards the inefficiencies in the government's agricultural programs which, it was charged, had abetted the poor agricultural performance. A number of reports released in the past two years have found that the traditional barriers to a balanced agricultural development still exist. The expansion in acreage under cultivation remains the primary means of increasing

production, while coffee and soybeans--two chief export crops--are the only crops to show any significant improvement in productivity over the past decade.<sup>99</sup>

There were also numerous indications that the government's pricing programs and credit policies had directly contributed to the declines in food crop production in these years. For example, one of the primary measures in the government's anti-inflation program of 1977 involved cutbacks in its rural agricultural credit program and the imposition of price freezes on many basic foodstuffs. The response of many farmers was to cutback in the planting of a number of food crops for which prices were considered to be too low. This was a widespread reaction in Rio Grande do Sul--the primary wheat growing area--where acreage planted to wheat declined by 15-20% in 1977; at the national level there was a 10% drop in acreage planted to wheat and a 4% drop in acreage planted to maize in that same year. A dissatisfaction with the low government price levels was generally acknowledged to be the most important factor influencing these cutbacks, with one survey by the Comissao de Financiamento da Producao estimating that nearly 60% of the production declines in 1978 could be attributed to low minimum prices, not poor weather.<sup>100</sup>

The other phases of the government's agricultural policy have also encountered unexpected obstacles in their implementation stage or, as in the area of land reform, there has not yet been an earnest effort at implementing them. The colonization effort, which had previously focused on the Amazon region, has been redirected toward

unexploited agricultural areas closer to the coast, such as in the cerrados of the Center-West region, where the reduction in transport and marketing costs which will be realized makes exploitation more economically viable.

This switch in emphasis away from the Amazon has also been considerably influenced by the growing realization that the exploitation of the Amazon was not going as planned. In 1978 there were still significant unanswered questions about the resource potential of the region. The ranching industry--which was once thought to be a bonanza in the region--had difficulties adapting its methods to the Amazon environment and had its progress deterred. This was coupled with a growing concern about the affects of deforestation on the ecology of the Amazon and serious doubts about the actual agricultural potential of the region.<sup>101</sup>

Land reform has remained the most neglected phase of the agricultural program. In a recent defense of its program the government suggested that "protectionist barriers erected by the industrial countries" were the principal obstacles to Brazil's increased agricultural production, not the structural impediments that would be removed by a more thorough going land reform. Thus far over 40% of the funds spent under the program have gone to infrastructure improvements, such as road construction and storage facilities. From all indications the administration of President Figuerido will continue to follow this line, making land reform the least effective measure in the government's agricultural policy.<sup>102</sup>

Ultimately, the most immediate impact of the failures in agricultural policy has been on domestic food conditions. Basic food costs are now the primary expense for most Brazilians and a sufficient diet has become increasingly difficult to obtain. The results of an IBGE survey, taken in 1976 and published in 1978, revealed that fully 70% of the population was making less than the cost of the government's "basic food basket" and thus were living below the official survival level. Another study, this one by the Getulio Vargas Foundation, published shortly thereafter, found similarly that thirty million Brazilians were earning less than the subsistence level of \$140 per year in 1978. The only notable government response to this decaying situation came in mid 1978 when the minimum wage was raised by 41%. Given the rate of inflation, however, this did not make up for the loss in purchasing power which had occurred in only the past year and was a wholly inadequate response to domestic conditions which the government's policies have themselves precipitated.<sup>103</sup>

In summary then, it is ironic that the world food "crisis", by being perceived as an essentially external phenomenon by the Brazilian government, has exercised a significant and deleterious affect over Brazil's domestic food situation. As we saw with Tanzania, although in this case under a more conscious and deliberate effort to expand imports, the economic imperatives of producing agricultural products for export have increasingly overridden domestic food priorities. And, as a consequence, the rush to forge a role for Brazil in combating world hunger has created serious obstacles to its own population's ability to acquire an adequate and nutritional diet.

## C H A P T E R     I V

### THE "ISSUES" OF ENERGY, FOOD, AND POPULATION IN YUGOSLAVIA

#### Introduction

In the case of the Socialist Federal Republic of Yugoslavia (SFRY) we now come to an example of a semi-industrialized socialistic state which stands apart from most other socialist states which came into being after World War II. Yugoslavia is most interesting for its attempt to sustain a system under the banner of socialism which combines political and economic centralism with widespread ethnic and cultural diversity and autonomy. In contrast to both Tanzania and Brazil, its policymaking process is characterized by essentially centralized decision-making, followed by extreme decentralization in the implementation phase (i.e. see the discussion of energy policy below).

The SFRY has been in existence since the end of World War II when it was established under the leadership and guidance of the Communist Party of Yugoslavia and Josip Broz Tito, who has remained as the country's President since that time. The Yugoslav state presently consists of six separate Republics and two autonomous Provinces bound together in a cooperative federation whose institutional structure directly reflects the wide variety in ethnic, national, historical, and social traditions of each constituent region and their significantly different levels of economic develop-



ment.<sup>1</sup> Indeed, the most striking aspect of Yugoslavia is the extreme diversity it presents in its social-cultural facets: it is a country with two alphabets (Cyrillic and Latin); three religions (Orthodox, Roman Catholic, and Moslem); four languages (Croatian, Macedonian, Serbian, and Slovenian); and five nationalities (Croats, Macedonians, Montenegrins, Serbs, and Slovenes).

Any discussion of the Yugoslav context must take as its point of departure a realization of the determinant influence which the "diversity factor" exercises, particularly with regard to the policy issues under consideration here. The Yugoslav system has been beset by a major contradiction since its inception which finds political uniformity encouraged and at times enforced, within a structure which allows and perpetuates wide social and cultural diversity at the same time. While the social and cultural differences among the Republics and Autonomous Provinces are in fact maintained and even enhanced by the complex institutional structure--which has as its fundamental premise the "preservation of all nations and nationalities"--political diversity is discouraged in the attempt to forge some degree of Yugoslav national identity which, at least in political terms, will hopefully transcend all other more parochial allegiances.<sup>2</sup> The developmental history of Yugoslavia in the post-war period has been dominated by the ongoing struggle to resolve this major societal and systemic contradiction.

The current political and economic structure of Yugoslavia fully reflects the complexities of the society which it attempts to serve.

Presently there are major institutions at the Federal level (a Federal Chamber, Federal Executive Council, and a Chamber of Republics and Provinces--all of which are allocated members on the basis of inter-regional parity); at the Republic and Province level (Chambers of Associated Labor, Chambers of Communes, and Socio-Political Chambers); and at the Commune level (Chambers of Associated Labor, Chambers of Local Communities, and Socio-Political Chambers). All of the members of these bodies are elected by a complex system of indirect elections over which the League of Communists of Yugoslavia (LCY) and the Socialist Alliance of Working People of Yugoslavia (SAWPY) have a determinant influence.<sup>3</sup>

During the period under consideration in this chapter, power in the system has devolved more and more to the local level where the Basic Organization of Associated Labor (BOAL) has recently emerged as the fundamental unit and the central legal entity of the economic system. The BOAL is now the forum through which all individuals exercise their basic constitutional rights as workers, and it has become of crucial importance in the de-centralized system of planning and policy implementation which has emerged over the past fifteen years in Yugoslavia (see the discussion below).<sup>4</sup>

The economic structure possesses some uniquely Yugoslavian characteristics as well, with two major economic divisions co-existing. The economic structure is dominated by a large socialized sector, marked by social ownership and worker self-management, which accounts for virtually all industrial and service activities, generating

roughly four-fifths of the national income and employing approximately 98% of the salaried labor force. Alongside of the socialized sector however, there also exists a private sector, consisting primarily of small farmers and artisans, which accounts for the remainder of national income and employment but, more importantly, dominates in the agricultural sector--where it accounts for approximately 94% of employment--and, as will be seen in the discussion on food policy, exercises a deterrent influence on the growth of the agricultural sector.<sup>5</sup>

The postwar development of Yugoslavia has consisted of several periods but, for the purposes of this analysis, the Economic Reforms of 1965 and the 1974 Constitution represent the benchmark events when the Yugoslav system acquired all of its current essential features and general developmental orientation.<sup>6</sup> In the early 1950s, after its break with the Soviet Union, Yugoslavia departed on a path to build a new kind of socialist society which has, at various times, been described as a "socialist market economy" or a "socialist democracy". The basis of the system which has since developed has had as its foundation a concept of "social ownership and control of the means of production." The basic structures and values of the system have been built upon this precept which has informed developmental policy since the mid 1950s:

Social ownership as an economic category is not vested in any holder. No one holds the right of social ownership, not even the federation . . . But the law recognizes a special property right which it calls the 'right to use'. Under social ownership the worker is vested with the management of the means of production

and the right to dispose of the product. Worker's self-management is seen as the fundamental principle of social organization, without which socialism is not possible, because without worker's self-management they would not have the disposition of the 'surplus value' created in production. Thirdly, the decentralization of political and economic decisions from the federal government to the republics, communes, and enterprises is necessary because worker's management cannot be realized without it . . . as a corollary of decentralized decision-making there has to be greater reliance on markets as a guide to the allocation of resources. This means a reduction of centralized planning and control. There has to be a decentralization of the planning function to the enterprises, communes, and the republics. The plan for the economy as a whole is 'only aimed at channeling and coordinating the trends of general development'.

Although the decision to follow this overall developmental strategy was made in the early 1950s, it met with many delays in its implementation. The task of implementing these goals was given new impetus in 1965 when a general dissatisfaction with the speed with which a decentralized market and self-managed economic system was being established produced the Economic Reform. The ultimate intention of the Reform was to replace "administrative decisions" and the political interference which they represented with "market relations" and the economic rationale which they represented. "Market relations" were to become the main determinant of economic development in all areas of the economy in the hopes that it would make the system more efficient in its allocation of all resources.<sup>8</sup> In seeking to achieve this overriding goal, the Reform involved a trend away from the traditional method of increasing production via increases in employment to one which emphasized increases in productivity as an alterna-

tive.<sup>9</sup> While the affects of the Reform were to vary among sectors of the economy, its impact was to be felt throughout the whole system over the next decade.

Since 1965, for example, the role of the Federal government in the economic arena has steadily decreased. Its duties have now been effectively reduced to areas of foreign affairs, defense, the protection of ethnic identity, and the creation and maintenance of instruments designed to guarantee a single market in the country--its most important economic function. Every Republic and Autonomous Province has its own independent fiscal system, which contributes to the Federal budget on the basis of Gross Material Product created by them and the amount of basic sales taxes which are collected. Thus, much of the fiscal control over the economy is located at the Republic and Province level where, ultimately, policies are carried out. At the Federal level there is a smaller degree of influence to be exercised in some areas of fiscal, price, credit, and foreign trade policies, which affect the market indirectly.<sup>10</sup> The delimitation of Federal power has had a deleterious affect on the ability to implement "national" policies in a number of areas including those under discussion here.

In addition, the Reform has had a significant influence over the planning process as it has developed over the last decade. Planning remains the primary means by which "national" policies are articulated, and the planning procedure is still important for coordinating the numerous self-managed worker organizations' produc-



tion and development goals. Since the initiation of the Reform, however, planning has taken on much more of an indicative character, where five year Social Plans provide only a general policy direction, not set production quotas, which is neither binding nor enforceable. Most often, the final product of a Social Plan represents more the diverse inputs of Republics and Provinces with different needs and interests, than any generally agreed upon set policy.

The planning process in Yugoslavia has become both a top-down and bottom-up process which involves all administrative levels. The Social Plan is supposed to represent the common targets for economic and social development jointly agreed upon via this process. The major coordination of the Plan takes place at the Federal, Republic and Province and commune levels, while enterprises and BOALs establish production and development goals under their general guidelines--in practice they are allowed a great deal of autonomy within the limits of the overall plan targets.

Ultimately, plans are coordinated and implemented through "self-management agreements" and "social compacts" which occur in the operational phase of the planning process and are negotiated among BOALs, enterprises, and Republics and Provinces. These agreements have become the primary means by which the specific goals of economic policy are elaborated and, as will be seen in the following analysis, they have made it exceedingly difficult for central control to be exercised over the implementation phase of the planning process.<sup>11</sup>

The influence of the Reform, by the early 1970s, had extended



beyond the intended goals of reconstituting economic relationships into the political realm as well. The economic decentralization encouraged by these measures had also brought with it uncontrolled trends in political decentralization, which precipitated a political crisis in 1971-1972. The major political manifestation of decentralization was the growth of "pluralism" and the emergence of the "nationalist" doctrine as an overt organizing principle in some republics--notably Croatia. Eventually, this movement was perceived as a serious threat to the Yugoslav state by the LCY national leadership, and it caused the Federal government, primarily in the personage of Tito, to intervene in the affairs of some republics and purge the local LCY of leaders with "particularist" tendencies.<sup>12</sup>

In this same period there was also a growing awareness that the economic consequences of the Reform had not all been beneficial, and that it had in fact aggravated one of Yugoslavia's most serious and chronic problems: the unequal development levels of its constituent republics. The division between the northern developed republics of Slovenia and Croatia and the lesser developed southern republics of Bosnia-Hercegovina, Macedonia, Montenegro, and Serbia had historically been of crucial socio-economic significance. Indeed, the economic inequalities among its constituent Republics/Provinces had always been a primary concern of the central government's development policy, which had often pushed economic preferences for the less-developed areas over the objections of the developed regions. Every five year Social Plan had contained specific provisions for aid to the under-

developed Republics/Provinces, with an "equalization of living standards" in all areas having been a long-standing national goal.<sup>13</sup>

The policy had been partially successful in that the underdeveloped regions had increased their growth rates under the preferential policy. But it was not successful enough, since the gap between the developed and underdeveloped regions had still increased. Under the decentralizing affects of the Reform it was clear by the early 1970s that the gap had continued to increase as the decline in central authority, which had been the major impetus for the supplemental resources being allocated to the underdeveloped regions, brought with it a declining interest in the equalizing policy.<sup>14</sup> The tendencies encouraged by the Reform had allowed Republics/Provinces to make economic decisions based on local and ethnic preferences, where, most often, they aimed at maximizing Republic not national development.<sup>15</sup>

Thus, by the early 1970s, both political and economic conditions had coalesced to produce some retrenchment of party centralism in the political arena and considerable reassessment of the "market-oriented" strategy of the Economic Reform. In the political realm, this produced a series of Constitutional amendments in the early 1970s which culminated in the promulgation of a new Constitution in 1974. The primary political intent of the new Constitution was to reassert in legal terms the primacy of the LCY as the chief organ in all spheres of social life. The new Constitution contained the most explicit confession to date of the LCY's ultimate power as the leading political and ideological organization, and made a point of reasserting the

LCY's right to intervene in decision-making and selection of officers by enterprises and communities--the levels at which such intervention was most crucial. While the system was to remain based upon autonomous enterprises and communes and social self-management, it nevertheless still required strong party management. Within the political arena then, the recent strains of reemergent national-ethnic cleavages has produced a new thrust to reinvest the LCY with the will, authority, and power to exert social controls, in its role as the most reliable all-Yugoslav social organization for carrying out this task.<sup>16</sup>

The move to political retrenchment also spilled over into the economic area as well in the early 1970s, particularly when the overall economic situation in Yugoslavia began to deteriorate under the effects of the world recession. Similar to most other industrial countries of the world, by the mid 1970s, Yugoslavia was suffering from serious problems of unemployment and inflation, and a persistently negative trade balance which had more than doubled between 1971 and 1975 (see Table 11). The primary response to the economic problems was an effort to gain greater overall control over the economy, expressed in an attempt to reinvest planning with more meaning at all levels as a necessary alternative to total reliance on "market forces", which the 1965 Reform had encouraged.

The new emphasis on planning was an integral part of the new 1974 Constitution and gained greater explicit support in a document produced by the Federal and Republic/Province Assemblies in 1975.<sup>17</sup> Both documents asserted that much of the recent economic difficulties

TABLE 11  
ECONOMIC INDICATORS FOR YUGOSLAVIA, 1968-1978

Year	*Trade Balance	Unemployment (percentage)	Cost of Living Increase (percentage)
1968	-0.5	8.0	5.7
1969	-0.6	7.8	7.5
1970	-1.2	7.0	11.1
1971	-1.4	6.7	15.3
1972	-0.8	7.0	16.1
1973	-1.7	8.1	20.0
1974	-3.7	9.0	21.0
1975	-3.6	10.1	24.1
1976	-2.5	11.4	11.9
1977	-3.1	11.9	14.5
1978	-3.5	12.0	13.6

SOURCES: Drawn from data in OECD, Economic Survey for Yugoslavia, 1973-1978. Paris: OECD; and International Monetary Fund, International Financial Statistics, November 1979.

\*amount is in \$US billion.

could be remedied by a greater emphasis on more coordinated planning, which was increasingly being seen as a necessary means to guide and correct some of the adverse effects of the over-reliance on the market that recent events had revealed. The latter document, entitled the "Draft Outline of a Common Policy for Long-Term Development in Yugoslavia (until 1985)", cast proper planning in a role crucial to the country's overall development:

Our country's chances for future economic development lie in a common and unified long-term development policy. Only as a unified whole can Yugoslavia successfully cope with the fundamental questions of her future development, such as . . . production of energy, raw materials, and food . . . the present document provides the groundwork for a common policy the existence of which<sup>18</sup> is one of the preconditions for self-management planning.

In summary, the political and economic context in which the Yugoslav government has attempted to implement policies in the areas under consideration in this chapter has changed significantly over the past decade. As the preceding has pointed out, the government's capacity and ability to formulate and implement "national" policies has been hindered by the constraints of an institutional structure which is based largely on preserving the country's multiple diversities. The ongoing dilemma of Yugoslavia's institutional development of securing a proper balance between decentralization/self-management and the essential requirements of coordinated economic planning remains unresolved and, as such, still exercises a determinant influence over discussions of national policy issues.

The following sections will present an overview of the energy, food, and population situations in Yugoslavia and will review the

important developments which have occurred in these areas over roughly the past decade. This account will provide the essential background for an examination of the present state of the government's policies in these areas and of the major factors which have influenced their formulation and implementation. The primary purpose again is to characterize the government's perception of these issues by drawing upon the policy responses as the primary representation of the government's understanding and treatment of these issues.

### Energy

Background to the energy situation 1960-1970. Of the three issues to be discussed in this chapter, energy has been, by far, the one which has drawn the most attention from the Yugoslav government. Although energy-related problems have plagued Yugoslavia for virtually the entire postwar period, the energy "issue" has assumed a growing prominence in recent years as international events have altered the domestic energy situation.

Increases in energy consumption--particularly that of electricity and petroleum--has been a crucial variable in the success of Yugoslavia's development policy in the postwar period, which has rapidly industrialized an essentially agrarian society in a relatively short time.<sup>19</sup> The expansion of the industrial sector over the past twenty years (from 15% of Gross Domestic Product at factor cost in 1951 to 33% of GDP in 1971) has sharply driven up total energy consumption (e.g. electricity consumption increased by eleven times between 1955



and 1975), and made Yugoslavia's natural energy resources a critical factor in the future growth of its economy.<sup>20</sup>

Unfortunately, the profile of Yugoslavia's natural energy resources is lacking in a number of important respects, which have begun to exercise a significant influence on the government's future development plans. On the plus side, the country possesses adequate amounts of two important sources of electricity production, soft coal and hydropower potential. But, on the other hand, the country lacks adequate deposits of either petroleum or natural gas, two energy resources which have grown in importance with the encouragement of industrial expansion.

An authoritative 1975 study of Yugoslavia's natural resources assessed the energy picture and presented a breakdown of the country's total energy resources. According to this study coal accounts for 84.6% of all power resources, water for 11.5%, petroleum for 1.9%, nuclear fuel for 1.9%, and natural gas for 0.9%.<sup>21</sup> The major energy resource is clearly coal, but the coal resources are composed of 99% lignite and brown coal which are of very low calorific value, have a low recovery rate (for lignite about 47%), and thus are more suitable for power generation than for important industrial uses such as coke and gas production. For these reasons the country's coal resources have not been adequately exploited, even for power generation, and hydropower has emerged as the chief source of electrical production. This source averaged 59% of total power generated for the 1965-1969 period and held good promise for further expansion, with only 17%

of the total hydropower potential being exploited in 1968.

During the 1960s the country's deficiencies in petroleum and natural gas became more obvious and costly as consumption of these products increased rapidly with the growth in industrial production and the rise in the standard of living. By 1968, for example, in the breakdown of total power production, oil had assumed second place to coal, with coal accounting for 60%, oil 30%, hydropower 7%, and natural gas 3%. The developments in energy consumption represented by this breakdown had seen the porportion of imports in total energy consumption increase from 17% in 1965 to 25% by 1969. The domestic oil situation in particular had deteriorated considerably in the latter half of the 1960s. Although domestic crude oil production had increased by 60% between 1964 and 1970, total consumption had grown by over three times in the same period. Concurrently, imports of crude petroleum grew from 50% to 61% of total consumption, while the cost of these energy imports had more than tripled over this seven year period (see Table 12).

The Federal government's policy in the energy area passed through two distinct phases in the 1960s which were set off from each other by the Economic Reform of 1965. Prior to 1965 the electricity supply industry and the energy area was under the strong administrative influence of central government agencies which made most of the developmental decisions and established the norms and standards of operation for the industry. Most of this was changed with the Reform when the greater development of self-management and autonomy was allowed among

TABLE 12  
YUGOSLAVIA'S OIL SITUATION 1968-1978

Year	Domestic Production*	Imports (Volume)*	Imports (Costs, \$US Billion	Oil Imports as % Total Consumption
1968	2.49	2.72	0.10	52%
1969	2.70	3.23	0.10	54%
1970	2.85	4.54	0.14	61%
1971	2.96	4.93	0.19	62%
1972	3.20	4.23	0.18	57%
1973	3.33	8.32	0.36	71%
1974	3.46	7.44	0.95	68%
1975	3.69	7.37	0.94	67%
1976	3.88	8.11	1.08	68%
1977	3.95	N/A	1.11	N/A
1978	N/A	N/A	1.25	N/A

SOURCE: United Nations, World Energy Supplies 1950-1974. New York: 1975; and OECD Survey, 1973 to 1978.

\*in million metric tons

the energy industries. Although the energy industry remained in the socialized sector, the way was open for the market and "economic laws" to play an increased role in its development.

As part of the movement to greater decentralization instituted by the passage of the Reform, the Federal Assembly also passed a Basic Electricity Supply Act in 1965. This act was the first step in a process which was to drastically curtail the Federal government's role in the energy sector. It instituted large cutbacks in the central government's financing of energy-related construction projects (i.e. supply lines, power plants, and the sinking of coal mines) in the hopes that it would create conditions under which the industry would become more production efficient and financially self-sufficient. This philosophy, which was to inform the government's policy in this area for the next decade, was perhaps best expressed in the comments of Edward Kardelj, who was President of the Federal Assembly at that time:

. . . Kardelj said that those who use electric power should be responsible for building electric power stations. The Federation of Electric Enterprises should not be vested with the authority of a government agency. Those who decide to build power stations at greater than the optimal cost will have to pay dearly for it and bear the costs themselves.<sup>22</sup>

Thus, by the latter half of the 1960s, the electric power system had been decentralized and was based upon regional enterprises which were responsible for planning the operation and development of the industry in each Republic/Province.<sup>23</sup> At the Federal level, all autonomous generation and transmission enterprises were mandatorily

united in the Association of Yugoslav Electric Power Suppliers. The Association's rights, however, were mainly confined to coordinating activities--although it was hoped that it would provide the basis for increased "rationalization" of the country's power facilities in the future.

Despite these hopes, by the end of the 1960s the most striking aspects of the power industry were its fragmentation, its lack of coordination, and its failure to grow adequately to meet the nation's power needs. This situation obtained even though the energy area had been singled out as a "priority" area in the Social Plan for 1966-1970. Under the Plan the energy sector was expected to increase its share of total industrial investment from the 28% of the 1961-1965 Plan to 35% by 1970. The development of the energy sector was cast in a role which was crucial to the fulfillment of the projections of growth for the total economy in this period. As one Yugoslav planning official expressed it: "The further advancement of the power industries is a basic premise for the growth of overall production and consumption in the forthcoming period."<sup>24</sup>

The results achieved under the 1966-1970 Plan in the energy area were far short of what was envisioned, however. For example, although the annual increase in total energy and fuels averaged 5.4% for the 1965-1969 period, this proved to be sorely inadequate to meet the increases in domestic demand. The affects of the trends to decentralization had clearly undermined the attempts to plan and coordinate development of the electrical supply industry which was

close to total disarray by 1970. As one study described the state of the energy sector, it was beset by:

Deficient interconnections and transmission capacities, droughts and failures to complete both thermal and hydropower plants on schedule (which) have led to endemic power shortages, frequently requiring the imposition of limitations<sup>25</sup> of power consumption by industry and households.

The limited construction achievements were the result of both a lack of inter-Republic coordination and the failure of adequate financing for construction to be forthcoming after the system of Federally subsidized funding had been abolished with the Reform. In fact, capital investment in the energy sector declined in both absolute terms and as a proportion of total investment in the economy as the electrical supply industry proved incapable of becoming self-financing. This situation was in part caused by the Federal government's pricing policies (toward electrical energy)--an area over which it retained some control--which maintained low electric rates for both industrial and household users (i.e. the rates did not increase between 1965 and 1970). This policy severely aggravated the situation, as it served to both undercut the power enterprises' ability to become self-financing and continued to encourage, via low rates, power intensive industries which drove up consumer demand.<sup>26</sup>

Because of these systemic problems the country experienced a number of shortages in energy supplies in this period, which were now beginning to have more serious economic consequences. The lack of coordinated planning in the oil refining industry had produced a situation where the construction of new refining facilities had left



the country with an excess refining capacity of 50% by 1970. At the same time, the lack of adequate storage facilities caused chronic winter fuel shortages in certain parts of the country.<sup>27</sup>

Electricity shortages, which had occurred in parts of Yugoslavia throughout the 1950s and 1960s despite the heavy investment in energy, were also beginning to have more serious ramifications for the economy as the frequency of the problem created production problems in some heavy industries; in the words of one observer:

In recent years in particular large users of electricity like manufacturers of carbide, ferroalloys, and aluminum were not able to obtain a large enough supply of current at all times being forced therefore, to curtail production.<sup>28</sup>

The government clearly acknowledged that the energy sector was plagued by problems of poor development and lack of coordinated planning when, in a Resolution of Economic Policy for 1969, it called for coordination and integration of the sector as a precondition for any effective policy. By the late 1960s, the government was moving on a number of fronts including an acceleration in the exploration for oil in the Adriatic and a new emphasis on the exploitation of the country's coal reserves for electric power production as ways of alleviating the energy situation. The course of national policy was to push in these directions for the next decade, as world energy-related events pushed the energy issue to the fore in Yugoslavia.

Energy Policy 1971-1975. The major dimensions of Yugoslavia's national energy policy in the early 1970s were first outlined in the

Social Plan for 1971-1975. According to the Plan, which was delayed a year due to the political crisis in Croatia, the accelerated development of the energy sector was a priority, given the progressive increases in energy demand which were projected over the next five years.

The Plan focused primarily on the electrical energy field and proposed a strategy which was to emphasize coal exploitation and thermal power generation as the best means of utilizing the country's comparative advantage in its most plentiful energy resource. Prior to this, while the government's approach had always emphasized utilization of Yugoslavia's "native" energy resources, the policy had centered upon exploitation of the country's vast hydropower potential. Now, however, under the new imperatives of the energy situation, time, costs, and reliability of supply had forced a shift away from hydropower:

. . . due to the susceptibility of hydro-potential to weather fluctuations, the long lead time in their (hydroplant) construction, and the presence of large lignite resources suitable for power and the lower capital costs of thermal plants.<sup>29</sup>

Little was accomplished toward these goals in the early 1970s, however, as the combination of the preoccupation with the political crisis and a worsening in the world energy situation hindered the Federal government's ability to act effectively in this area. In addition, the shortage of capital for investment in the electrical energy industry continued, with total investment in the energy area actually declining by nearly one-half in the 1970-1972 period.<sup>30</sup>

The reduction in the Federal government's financial role in the

energy sector had clearly not produced the desired results. Over the 1966-1973 period, for example, the proportion of investment in the energy sector had declined from 33% to 18% of all industrial development. The situation was further aggravated by the fact that the composition of the investment made was very unfavorable, given the government's goals for the electrical industry. During this period there was a serious lag in investment in coal production for thermal generation and in the construction of hydropower facilities and a distribution network--all of which had been high priorities under the Social Plans for 1966-1970 and 1971-1975. Meanwhile, there was an above average increase in investment in power facilities relying on imported energy (e.g. diesel fueled thermal generators) which went directly against the policy to encourage usage of the country's own energy resources. The immediate results of the situation in the electrical industry were continued power shortages; whereas the projected increase in power production for the 1971-1975 Plan was expected to be 12% annually, in the 1971-1973 period it had achieved only a 10% growth rate.<sup>31</sup>

In the oil-related energy area, the expectations set out in the Plan were not being met in the early 1970s either. While domestic oil production had shown a 5.3% annual increase during 1971-1973, the projected necessary increase to meet the Plan's goals had been set at 9%. Consequently, over the first years of the 1970s oil imports as a proportion of total consumption had jumped to 71% by 1973, with the volume of imports increasing by over 70% and the costs doubling in

this three year period (see Table 12).

Once the political crisis of the early 1970s had been defused, the Federal government was able to turn its full attention to the progressively deteriorating energy situation, and by the mid 1970s a number of major new national policy initiatives had been announced. The new responses to the energy problems attempted to take a more comprehensive view of the total energy picture and, with the growing emphasis on more effective planning, began to take a more long-term view of the situation.

The immediate concern of the government was to attempt to remedy the more critical deficiencies in the national energy system: specifically, the continued poor development of the electrical system which was having increasing economic consequences. During 1973 and 1974 for example, four of the five Republics had experienced severe electrical shortages which this time forced them to considerably reduce supplies to households. The chief cause of these cutoffs was the vulnerability of the hydropower plants to rain fall patterns. In this case, a severe drought in the Autumn of 1973 had drastically reduced the total systems generating capacity, and by the end of the year, all Republics/Provinces had been required to place restrictions on electricity consumption.<sup>32</sup> The problems presented by these shortages were exacerbated by the continued lack of an adequate national transmission network, which could alleviate supply and demand imbalances and allow greater transference of power between regions.

The response of the national government now included measures

TABLE 13  
 OUTPUT OF ELECTRICITY, 1967-1977  
 (in million kilowatt hours)

Year	Total Output	Hydroelectric	Thermal
1967	18702	10655	8047
1968	20642	11768	8874
1969	23375	14732	8643
1970	26024	14741	11283
1971	29509	15644	13865
1972	33231	17982	15249
1973	35062	16394	18668
1974	39456	20659	18797
1975	40040	19317	20723
1976	43573	20555	23018
1977	48580	24354	24226

SOURCES: United Nations, World Energy Supplies 1950-1974. New York: 1975; and OECD, Economic Survey for Yugoslavia, 1973-1978. Paris: OECD.

designed to both cut consumption and increase production. A pricing policy was the primary means utilized to accomplish the former goal. As one Yugoslav observer had noted, traditionally electricity rates had been largely subject "to the need to insure adequate conditions for efficient operation and development of activities concerned, as determined by social development plans", in other words, it was considered to be more a public need than a commodity to be sold at a fair profit. This approach now changed and price adjustments were more frequently employed to reflect world energy conditions--a change which saw electricity rates rise by from 12% to 28% annually over the 1971-1974 period. On the production side, the Federal government selectively increased investment incentives in a number of energy related areas, including reducing financial requirements for some investments, enabling greater access to foreign loans, and easing import duties on energy production-related materials--all in the hope of reversing the serious downward trend in energy sector investment. By 1974 there was also general agreement that no more diesel powered thermal plants would be built, and there had been increased discussion among the Republics of better ways to deal with the serious kind of energy shortages which had been encountered in recent years, both of which illustrated a degree of cooperation among Republics/Provinces which thus far had been lacking.<sup>33</sup>

Amidst the increased activity in the electrical energy field, comparatively little was forthcoming in the oil related area. Although there was some concern expressed over the growing cost of oil imports,



the situation was not viewed to be nearly as critical as that in the electrical energy area. The government position in this area was aptly characterized by the OECD's 1974 Economic Survey:

Yugoslavia is not as heavily dependent on oil imports for its fuel needs as many other countries, as wood, coal, and hydroelectric power provide most heating and industrial energy requirements . . .

Accordingly there have been no major measures to reduce oil consumption. More significantly the Yugoslav authorities have expressed a willingness to run-down foreign exchange reserves if necessary to pay the extra oil costs rather than restrict the growth of the economy this year.<sup>34</sup>

Indeed, the only measures implemented in this area at this time were price increases which were imposed on oil products and natural gas. Although they effectively increased costs of these products by about 66%, they still left prices well below the levels of similar products in most other Western European countries.

These generally piecemeal responses to the changes in Yugoslavia's energy situation in the early 1970s were soon followed by two major policy pronouncements which emerged out of the general trend towards re-emphasizing more comprehensive, long-term planning in all sectors of the economy. Both measures tried to present a more comprehensive view of the country's energy situation, and exhibited an increasing tendency to view Yugoslavia's energy problems within a world perspective, which recognized the growing influence that international contingencies were playing in the formulation and implementation of the government's domestic energy policy. This only entailed the "realization" that such was to be the case, however, for although the world energy situation now had a clear influence on domestic

policy, it did not lead, as we saw in the case of Brazil, to any significant alteration in the view that increased energy consumption was integral to future economic growth.

The first of these measures appeared in late 1974 and was the product of negotiations among the Federal Executive Council and the executive councils of the Republics/Provinces.<sup>35</sup> The measure, entitled the "Social Compact on the Fundamentals of the Development of the Electricity Supply Industry from 1974-1980", was aimed specifically at the energy sector, and laid out the major aspects of the development of the industry over the next six years. It has remained the basic planning document for the electrical energy sector since its passage.

As with the past documents in this area, the compact indicated that the basis of policy in this field was to be "more coordinated development" of the electrical system, but this time a degree of obligatory cooperation was to be imposed:

It was now made obligatory for the Federation, republics and provinces to adopt measures to encourage justified joint construction of electricity generation and transmission facilities and/or to make such construction possible on the territory of other republics and provinces.<sup>36</sup>

After noting that past policies in the electrical energy field had largely been failures, the compact went on to call again for the immediate exploitation of the country's coal resources and thermal power potential (as a faster and more preferable option for increasing power production than hydropower), and the rapid construction of an adequate inter-Republican transmission system. Fully 65%

of the 63 milliard dinars which were to be invested under this compact were to go to fulfill these two priorities, and hopefully increase generating capacity by 133% by 1980.<sup>37</sup>

In addition to reasserting these now standard energy policy priorities, the new compact also departed from past policy proposals in two significant ways. The most important was the initial suggestion that nuclear power would, over the long term, be increasingly exploited as a new resource for electrical energy, and the announcement that construction on the first plant was to begin shortly. The justification for this option was based upon the second point which now saw the energy "issue" as an immediate and critical problem for the whole nation. As such, nearly 75% of the total financial outlay under the compact was to be expended in the next three years, "since it is necessitated by the present situation in the Yugoslav electrical system". The change in perspective represented in the new compact signalled a growing tendency on the part of the government to treat the energy issue as a crisis situation.<sup>38</sup>

A major revision in the Yugoslav government's perspective on the domestic energy situation and its policy approach followed about a year later, appearing as an integral part of the "Draft Outline of a Common Policy for Long-Term Development in Yugoslavia".<sup>39</sup> In this statement, which contained a detailed explication of the country's overall development priorities for the next decade, a considerably revised energy policy was set forth upon the newly accepted premise that Yugoslavia's energy resources were not adequate for her future

power needs.<sup>40</sup>

This reassessment of the country's energy resources and the continued deterioration in the energy situation, presented primarily in the growing deficit in electric energy and the rapid increase in oil imports, now saw the energy issue cast as one of the "major problems of economic development for the country":

Production of power, raw materials, and food should take a central place in (our) production orientation and development policy. This production is of extraordinary importance for the establishment of economic stability, the elimination of the balance of payments deficit, the harmonization of the structure<sup>41</sup> of the economy, and dynamic and more stable development.

Reflecting on the development of the energy sector since World War Two, the Draft Outline concluded that despite all past efforts, energy had now become a limiting factor on the country's dynamic economic development and the further rise in the standard of living which this would bring.

Under the energy policy proposed in the statement, the role of "power production" remained unaltered as a "general factor of economic development" whose rational production and consumption demanded, first and foremost, the "joint efforts of the entire country". Unlike previous policy statements however, the new posture recognized the inherent limitations of Yugoslavia's relatively plentiful but structurally unsound natural energy resources. On this basis, the domestic power strategy required greater exploitation of the country's coal reserves, an intensified exploration for new resources, and a greater emphasis on endeavors to adapt the structure to increasing the share

of high-yielding forms of power production, like nuclear.<sup>42</sup>

In the oil-related area, it was now publicly acknowledged that the domestic oil situation was critical (with imports accounting for over two-thirds of consumption), due, in large part, to the continued dearth of significant domestic resources:

The insignificant capacity of domestic sources, whose exploitation should be intensified by accelerating prospecting as much as possible, imposes the need for increasing imports of crude oil, which should be arranged on a long-term basis.<sup>43</sup>

In a most surprising departure, oil dependence was now viewed as a necessity which had to be dealt with on a long-term basis to ease its effects. While another aspect of oil policy also called for a reduction of oil imports to an economically reasonable level for balance of payments reasons, it was quite clear that self-sufficiency was not held to be a realistic goal.

The Draft Outline reiterated the critical need for the creation of a united power system as well, invoking it as in the best interests of associated labor, the economy, and all parts of the country. Like its predecessors, however, it left the problem of implementation of policy to agreements and coordination among organizations of associated labor and Republics/Provinces, which necessitated a degree of cooperation and planning among these units which had hitherto not been forthcoming.

In sum, few of the past failures of the government's energy policy had been remedied by the end of 1975, for, despite all of the concern expressed at the national level, little had actually been accom-



plished.<sup>44</sup> In the area of oil, for example, no new deposits had been discovered after more than five years of exploration in the Adriatic. The primary measures in the oil area continued to be progressive price increases, supplemented by "recommendations" by the Federal Executive to Republics/Provinces on measures which could be taken to conserve petroleum by cutting transport costs through more inter-Republic cooperation. These activities had little significant affect, however, as total consumption of oil continued to rise with oil import costs reaching 12-13% of total import costs in 1974-1975 (see Table 14).

By most assessments, the government's responses to the energy situation had produced no significant results in this period. One could still find any number of analyses which cited the persistent chronic problems, particularly in the electrical energy industry, as the main obstacles to an effective government policy (i.e. lack of proper planning and coordination in construction, construction delays, lack of investment, and the vulnerability of the power system to the vagaries of the weather).<sup>45</sup> It thus remained to be seen whether these difficulties could finally be overcome in the ensuing years.

The energy situation 1976 to the present. Since the flurry of activity in the energy area in the first half of the 1970s, little has changed in the fundamental aspects of Yugoslavia's energy situation. Much of the policy orientation thus remains the same. The most recent government initiatives in the energy area are contained in the Social Plan for 1976-1980. The Plan basically restates the



TABLE 14

Oil and Food Import Costs As A  
Percentage of Total Import Costs, 1967-1977

Year	Oil Imports	Food Imports
1967	5%	-
1968	5.5%	6%
1969	5%	6%
1970	5%	6%
1971	6%	8%
1972	5.5%	9%
1973	8%	10%
1974	13%	8%
1975	12%	5%
1976	15%	8%
1977	14%	8%

SOURCE: Derived from data in United Nations,  
Yearbook of International Trade Statistics, 1968  
to 1977; Yugoslav Survey 20 (May 1979).

priorities of the preceding years with the "acceleration of electric power production" still being pushed as the best way to eliminate the energy constraints on development. The other important goals which are mentioned include increases in the domestic production of oil, natural gas, and coal and a significant reduction in the cost and volume of imported oil.

The Plan projects an overall growth in the energy branch of industry of 9% annually over the life of the Plan, a rate which is higher than that achieved during the whole previous decade. This is to be accomplished through the exploitation of both hydro potential and the country's soft coal reserves, as well as through stepped up exploration for petroleum in the Pannonian Basin--where Yugoslavia's major onshore deposits have been found--and in the Adriatic. Based upon what are believed to be "promising" prospects for oil discoveries, the Plan envisions a decrease in dependence upon imported oil and a reduction in dependence on oil for total energy requirements from 46% to 41% by 1980. By 1980, it is expected that the structure of electrical energy output will be altered considerably to where hydro-power will account for only 36% of total output, coal-fired thermal plants for 50% of output, 8% from liquid fuels, and 6% from nuclear power. This projects a very significant increase in the role of nuclear generation with the first plant expected to be completed in 1979 and approximately twelve plants in service by 2000.<sup>46</sup>

The more decided emphasis on coal-fired and particularly nuclear powered plants has been precipitated by the increasing lag in power

production, and the persistence of serious power shortages which have spread throughout the country over the past few years. Although power production grew by approximately 10% annually over the 1976-1978 period, demand was not fully satisfied, requiring electric power imports of \$43 million in 1976. More recently, a summer drought and winter freeze in 1978 combined to nearly paralyze the country's hydropower generating capacity, which has become very susceptible to poor rainfall patterns and climatic conditions.<sup>47</sup> These conditions required all Republics/Provinces (except Slovenia) to impose power cuts of several hours a day in 1978 and forced a drastic increase in power costs to cut consumption. The poor development of the country's distribution system prevented the possible transference of excess power between regions during this crisis and continues to aggravate the shortages which have occurred.

The country's continuing energy difficulties over the past few years have produced progressively more drastic responses by the government in certain energy-related areas, some of which have contributed to the deteriorating economic situation as well. Electric rates have been continuously increased over the past few years in line with developments with world energy prices. These increases have driven up industrial costs in particular and made them a chief contributor to the rapidly increasing inflation rate.<sup>48</sup> In recent years the government has also removed all import duties on imported oil (this was in the neighborhood of 6.8% in 1971), and either eliminated or lowered all tariffs on imports of equipment related to energy-

production activities.

But the most significant changes have come in the form of alterations in the laws governing foreign investment in energy related areas. These laws have recently been greatly liberalized to make the investment climate both more attractive and more profitable to foreign capital. The most important changes in this area include those which now allow foreign investors to invest in power generation facilities and which allow foreign firms to undertake exploration for new power resources within Yugoslavia itself.<sup>49</sup>

The most recent events affecting the energy situation in Yugoslavia and the character of the government's responses to these developments clearly underlines the severity of the country's energy problems. Furthermore, they indicate that in general the government's domestic energy policy has largely failed to alleviate the critical problems in the energy area.<sup>50</sup> One need go no further than the recent comments of Stane Dolanc, then a high LCY official, to find that the energy situation in Yugoslavia has not perceptibly improved in recent years:

. . . the great problem has been the crude oil supply while all the other sources of power--coal mines, hydropower stations, and atomic power stations--are in a state of crisis.<sup>51</sup>

It is still apparent that effective implementation is the most crucial obstacle which the government's national energy policy faces.

### Food

Introduction: Yugoslav agricultural policy to 1970. Unlike the world

energy "crisis", the recent developments in the world's food situation have had a comparatively minor impact on the living conditions of the Yugoslav population. The provision of an adequate supply of basic foodstuffs to meet domestic requirements has not been a serious problem for Yugoslavia since the mid 1960s. The country is virtually self-sufficient in producing all but two of its major food staples (the traditional exceptions have been wheat and sugar), and since the 1960s it has been a net exporter of food and live animals in most years.<sup>52</sup>

This is not to say, however, that world food conditions have not exercised some influence over the formulation of Yugoslavia's domestic agricultural policy. Indeed, as in the case of Brazil, in recent years world food conditions have tended to progressively overshadow domestic factors in the formulation and implementation of Yugoslavia's agricultural policy. There has been a growing awareness of the value and strategic importance of food exports under current international conditions. In a situation where a chronic, increasing trade deficit has persisted and progressively worsened in the 1970s, the quest to exploit the export potential of Yugoslavia's agricultural sector has become the dominant factor shaping the government's current agricultural policy.

For most of the postwar period Yugoslav agriculture has been able to expand production sufficiently to meet the large portion of domestic food needs, despite what is generally acknowledged to have been, at least until 1965, a government development policy which dis-

criminated heavily against agriculture in favor of industry. Under the government's industrially oriented policies, agriculture has been viewed as a secondary sector whose primary function was to provide low cost inputs (food and raw materials) to fuel the industrial development process. Consequently, the agricultural sector's role in the economy has declined significantly in the postwar period with its share of the Gross Domestic Product falling from 38% in 1951-1953 to 21% by 1969-1971, while the proportion of the labor population in agriculture fell from 68% to 47%.<sup>53</sup> The decline in the agricultural sector, which was encouraged by the government's postwar agricultural policy, began to have more serious economic effects by the late 1960s, which precipitated important changes in the government's posture. By this time, agriculture was becoming a drag on the country's overall development as it failed to expand sufficiently to meet the raw material needs of the food processing industries. The growing problems in the agricultural sector were to make it a focus of the government's overall development policy as it was elaborated in the 1970s.

Before embarking upon our analysis of the major policy developments in this period, it is essential to say a few words about the unique characteristics of the Yugoslav agricultural sector. Agriculture is the only major sector of the economy which does not belong exclusively to the socialized sector. Agriculture consists of a large private sector and a small socialized sector, a situation which has existed since the abandonment of the government's ill-fated forced collectivization policy in the early 1950s. While the separation of



these two sectors has since been maintained, and although they differ widely in their essential characteristics, they have carried on a relationship which has been based more upon their complementarity than upon their mutual exclusivity.<sup>54</sup>

In reviewing the performance of agriculture in the postwar period it is, therefore, crucial to differentiate between the primitive peasant agriculture of the private sector and the modern agricultural techniques of the socialized sector. Private farm holdings predominate, accounting for approximately 70% of all agricultural land, 96% of the agricultural labor force, and 71% of total agricultural production in 1970. The private farms are characterized by a fragmented land-holding pattern, small farms, and the practice of primitive non-mechanized methods of cultivation. The private farmers are primarily subsistence farmers who grow mainly staple crops (wheat and maize) and livestock (e.g. although they accounted for 71% of total production in 1970, only 40% of this was actually marketed).<sup>55</sup>

On the other hand, the socialized farms lie in sharp contrast to the private. The socialized sector consists of much larger holdings which employ modern cultivation methods, a high degree of mechanization, and use high-yield seeds and fertilizer. This sector occupies only 30% of the farmland (of which only one half is considered arable), employs only 4% of the agricultural labor force, but accounts for, on average, 29% of total agricultural output.<sup>56</sup> The social sector is most involved in the production of wheat and maize and industrial crops (sugarbeet and sunflower) for marketing purposes;

TABLE 15  
COMPOSITION OF PRIVATE FARMS BY SIZE, 1969  
(in percentages)

	up to 1 ha*	1-2 ha	2-3 ha	3-5 ha	5-8 ha	8-10 ha	over 10 ha
in total number of farms	21.1	16.9	15.4	20.2	14.8	5.0	6.5
in total land area	2.7	7.0	10.1	20.7	24.2	11.6	23.7

SOURCE: Dzermal Drace, "Development of Agriculture," Yugoslav Survey 17(February 1976):45-66.

\*ha = hectares.

TABLE 16  
COMPOSITION OF SOCIALIZED FARMS BY SIZE, 1973  
(in percentages)

	up to 50 ha*	50 to 300 ha	300 to 1000 ha	1000 to 2500 ha	2500 to 5000 ha	over 5000 ha
in total number of farms	40.2	24.3	14.8	8.8	6.5	5.4
in total land area	0.3	2.8	7.2	11.5	19.3	58.9

SOURCE: Same as TABLE 15.

\*ha = hectares.

approximately 80% of its total production is normally marketed, accounting for about 44% of all marketed production.<sup>57</sup> The socialized farms have carried the brunt of the expansion in agricultural production in the postwar period, primarily through increases in productivity accomplished through the progressive application of modern cultivation techniques.

Given this basic structure, Yugoslavia's agricultural context has many similarities to those of the less-developed countries in the world. Little structural change has occurred in agriculture, particularly since the aura of the new regime's collectivization policy wore off in the early 1950s. Weather conditions are, for example, still the primary determinant of the agricultural sector's year to year performance, especially in the private sector where the level of cultivation methods make them particularly susceptible to weather variation. By most accounts, variabilities in production levels are still almost totally attributable to the weather conditions.

In addition, while water resources are plentiful in most areas of the country, irrigation has not been developed to any significant degree, with only 2.5% of the total arable land equipped with modern irrigation facilities in 1975. Both erosion and flooding are also important problems which have detrimentally affected the agricultural sector's performance in recent years, assuming greater importance in the 1970s when most all potential arable land was being utilized.<sup>58</sup>

The persistence of this generally backward agricultural structure is attributable, in large part, to the government's traditional

policy of neglect in this area and one which, when attentive, discriminated heavily against the development of the private sector. The widespread fragmentation of private holdings is a direct result of laws, still in effect, which prohibit private holdings of more than 10 hectares (about 24.7 acres) and which, until 1965, did not permit private farmers to purchase capital equipment for their farms.<sup>59</sup> Until then the opportunity to autonomously improve their agricultural techniques was not granted to private farmers, as the government's policy allowed only voluntary cooperation between peasant farmers and the socialized farms--who had a monopoly on modern technology and management skills--as the major device for private farmers to improve their production techniques. In the words of the World Bank study:

. . . the government concentrated on developing agricultural marketed production through a modern social sector . . . , which replaced collective farms as the main basis for providing the marketed output a rapidly growing nonagricultural population (required).<sup>60</sup>

The biases of this policy in the performance of agriculture could clearly be seen in a number of factors. While the agricultural sector as a whole grew at average annual rate of 3.2% between 1953-1971, the socialized sector expanded at a 7.2% rate while the private sector grew at only 2.4%; indeed, overall, the productivity of the private sector in the late 1960s was only about one half of that in the socialized sector.<sup>61</sup>

Prior to the 1970s, the most significant change in the government's posture toward the agricultural sector came with the initiation of the Economic Reform in 1965. The passage of the Reform had great import

for the agricultural sector which was now to be placed on an equal footing with industry in the country's developmental plans. Under the Reform, intensification of production, increased productivity, and a greater valuation of work through the market were to become priorities of agricultural policy. The measures instituted under the Reform included the elimination of artificially low prices on agricultural products, which had heavily subsidized industry and had shielded agriculture from market forces, in the hopes that the sector would become more economically efficient. A system of price parity for agricultural products was initiated (raising producer prices by 43% on average), and a more selective system of guaranteed minimum prices for cereals and livestock were initiated in a move to both increase productivity and stabilize production levels. Lastly, the amount of Federal aid to the agricultural sector was also significantly cut, as agriculture was now expected to provide more of its own investment resources for expansion purposes.<sup>62</sup>

The affects of the Reform on agriculture were generally favorable over the next few years as production increases were realized under the stimulation of the price parity program. These initial positive results produced some very optimistic appraisals of future gains in agriculture's performance, such as those envisaged in the Social Plan for 1966-1970. The Plan projected a rate of agricultural growth of 4.5% to 5% annually over the life of the Plan, with the growth of the social sector at 10% and that of the private sector at 4.6%--rates which involved a considerable acceleration of growth in

both sectors to be achieved.<sup>63</sup>

By the end of 1970, however, the bases for these expectations for agriculture had been significantly attenuated. Agriculture's growth rate of expansion had fluctuated from plus 7% to minus 4%, due to continued crop fluctuations (see Table 17). Over this period the social sector had managed only a 5% growth rate while that of the private sector was at 1.3%.

The basic problem with the Plan's agricultural policy was the continued relative neglect of the development of the private farmers, who could still only acquire most of the benefits of the new measures through direct cooperation with the socialized farms. The socialized sector clearly continued to benefit most from the policy of the government. During the five years of the Plan, the socialized farmers received 71% of the total gross fixed investment in agriculture, a figure which was only slightly less than the previous five year period. In this time the socialized sector had significantly increased its share in the production of most major agricultural products; over the 1960-1970 period, its share of total output had climbed from 13.5% to 20.2%, while its total volume of production had grown by 110%.

The socialized sector's accomplishments had been primarily achieved by the adoption of a consolidative, capital intensive strategy which had been encouraged by the Reform's push to make agriculture more "economically efficient". Thus, over the 1961-1971 period, the number of workers in the socialized sector of agriculture had declined in absolute numbers by 14% and the number of socialized



TABLE 17  
 PRODUCTION OF PRINCIPAL FOOD PRODUCTS, 1966-1977  
 (thousand metric tons)

Year	Wheat	Maize	Meat	Sugarbeet	Sunflower
1966	4600	7980	709	4030	-
1967	4823	7204	780	3680	250
1968	4363	6813	857	2910	309
1969	4882	7821	806	3636	390
1970	3792	6928	847	2948	264
1971	5604	7443	843	2961	347
1972	4844	7930	875	3274	277
1973	4750	8253	857	3338	434
1974	6283	8031	953	4300	298
1975	4396	9392	1005	4213	272
1976	5979	9106	1052	4711	319
1977	5622	9856	1256	5280	479

SOURCE: United Nations, Food and Agricultural Organization, Production Yearbook, 1967 to 1977.  
 Rome.

holdings declined from 5120 in 1960 to 2155 in 1969, as the smaller holdings were consolidated.<sup>64</sup>

On the other hand, the government had grossly overestimated the response of the private farmers to the measures instituted under the Reform and the Social Plan for 1966-1970. The primary purpose of the government had been to more fully integrate the private farmers into the market economy, largely through increasing the incentives to and economic benefits from cooperation with the social sector. The new incentives were apparently not enough, as not only was the increased cooperation not achieved, but the number of private cooperators actually declined in the 1966-1970 period.<sup>65</sup>

Overall then, the performance of the agricultural sector had not perceptibly improved and had even measurably worsened in some respects in this period. The financial situation of agriculture, for example, had deteriorated as investment in agriculture over the last half of the 1960s had virtually stagnated. There were also increasing production short-falls in food products as well, with shortages of some products, such as meat, becoming more frequent in the urban areas in the late 1960s. The livestock area, in particular, suffered from poor pricing policies which were cited as the major cause for the decline of this sector, as the number of cattle actually declined over the 1966-1970 period and total production reached a 1970 level only 9% above that of five years earlier.<sup>66</sup>

A further result of the government's pricing policies was the affect of food price increases on the rate of inflation which nearly

doubled from 5.7% in 1968 to 11.1% in 1970; in the latter year food prices alone increased by 12% (see Table 18). According to one report, by the end of the 1960s the rapidly rising food prices were beginning to have an affect on the nutritional standards of the populace, as the per capita daily caloric intake virtually stagnated between 1966-1970. In addition, the consumption of total proteins had actually declined, led by a fall of 8% in meat consumption in 1968-1970, as the prices of the higher protein foods became prohibitive for many consumers.<sup>67</sup>

Thus, by the end of the decade, the fundamental problems of the agricultural sector remained unaltered. Weather remained the primary determinant of yearly production levels of the staple crops which accounted for the persistence of wide fluctuations in these levels, necessitating continued food imports, which were to become a growing drain on the country's balance of payments as world events drove up the price of food products on the world market.

Agricultural policy 1970 to the present. In the 1970s Yugoslavia's agricultural sector has drawn increasing attention from the government, as the policy failures of the past and world events have made the economic costs of agriculture's inefficiencies more difficult to bear. The increased concern with the problems of agriculture has been reinforced, and progressively influenced, by the changes in the world's food situation. Under the influence of these developments, the production of agricultural products, particularly food, has been seen as an important method of alleviating Yugoslavia's

TABLE 18  
FOOD PRICE INCREASES, 1968-1977

Year	Increase in Percentage
1968	3.3
1969	7.5
1970	12.0
1971	17.0
1972	19.1
1973	22.0
1974	16.0
1975	24.0
1976	14.1
1977	18.3

SOURCE: OECD, Economic Survey,  
1969 to 1978.

serious balance of payments problems as their value has drastically increased on the world market.

By the early 1970s, the failures of agriculture had imposed a growing financial burden on the country. Between 1970-1973, for example, the import costs of food and animal products had risen from 6% to 10% of total import costs--in particular, major increases in wheat and sugar had been necessary to close the gap between production and demand (see Table 14). At the same time, the rise in food prices continued to be a major cause of the higher inflation rate, with food prices increasing by an average 19% annually over the 1971-1973 period (see Table 18).

The first major policy response to these developments came in the Social Plan for 1971-1975. The agricultural policy which it proposed involved a significant cutback in the growth expectations for agriculture. Overall growth for the sector was now projected at 3.2% annually (social sector at 5% and the private at 2.8%), which, while a drastic reduction from the previous Plan, still required an acceleration of the growth in the private sector to a level which it had not achieved over the past decade. Although the private sector was to receive increased attention under the Plan, however, the Plan did not propose to create any new services or agencies to accomplish this, leaving as the primary means cooperation with the socialized farms. In the production related areas, the Plan singled out expansion in the foodstuffs sector, particularly of livestock, as a priority which now had as its justification both the need to supply

domestic demand and the need to improve the balance of payments by reducing imports and increasing export revenues through food exports.<sup>68</sup>

There were problems with the implementation of the Plan's goals for agriculture, however, as the government encountered similar problems of coordination at the national level as those of its energy policies. The planning and implementation of agricultural policy was also highly decentralized. At the Federal level coordination of agricultural policies was controlled by the Federal Chamber of the Economy and the Secretariat of Agriculture, with the latter's function being to coordinate the plans, programs, and legislation of the Republics/Provinces. The "responsibility" for policy implementation lay with the Republics/Provinces Secretariats of Agriculture, however, which, due to decentralization of decision-making, was in reality allotted out to autonomous self-governing organizations.<sup>69</sup> In fact, the Secretariats exercised only indirect control through fund disbursements. The situation was aptly characterized by the World Bank in 1975:

Difficulties of orderly coordination, lack of enterprise response to overall guidelines, and the non-participation of the peasant-farmers in the decision-making process<sup>70</sup> are the major shortcomings of the institutional system.

Because of the failure of the policy of the Social Plan to be effectively implemented, and the continued problems with production, a significant reassessment of national agricultural policy was undertaken in 1973. This was manifested in the passage of an inter-Republic "Compact for Agricultural Development for 1973-1975". This new initiative supplanted the policies of the current Social Plan by



once again retreating on the growth expectations for agriculture and calling for a more moderate, long-term growth rate of 2.8%. The two primary tasks of agricultural policy were now to: 1) accelerate the socialist transformation of agriculture and the countryside by creating the conditions whereby the socialist sector would exercise a decisive influence on the market and production levels; and 2) to further accelerate the overall production expansion in the whole sector.<sup>71</sup>

The new agreement committed both the Federal government and the Republics to increased investment in the agricultural sector. At the Federal level it expanded intervention in the market to levels comparable to the early 1960s.<sup>72</sup> A protective minimum price policy was established at the national level for agricultural products which were now deemed to be of "nationwide" significance (wheat, milk, sugarbeet, and oilseeds), and the tariff treatment of agricultural inputs and products was altered to encourage expansion. At the Republic/Province level, the compact increased the resources to be allotted to socialist farms and once again relied upon them as the primary vehicle for extending aid to the private farmers in the hopes of modernizing that sector. A primary concern was to increase the cooperation among private and socialized farmers and thereby raise the former's comparatively lower rates of labor productivity. Once again, however, the compact lacked in providing for the implementation phase of carrying out the policies which it had proposed and it was, therefore, to have little immediate effect on alleviating

the problems at which it was directed.<sup>73</sup>

The following two years saw the domestic agricultural and, in particular, the food situation deteriorate in a number of areas as the agricultural performance in both the domestic and the export-related spheres failed to live up to expectations. In the domestic sphere, for example, the conflicting goals of satisfying both domestic demand and providing a surplus for export produced periodic shortages of certain food products. These became more frequent as the differential between domestic and international market prices progressively widened in the mid 1970s.

The outstanding example in this area was that of meat production, which seemed to be responding more and more to the international rather than the domestic market. Up to 33% of total meat production was exported in these years as attractive export prices and the need to satisfy the demands of the tourist trade took precedence, in many cases, over meeting the demands of domestic consumers. Government pricing policies were also cited as a contributing factor, as the raising of prices to encourage production often led to meat being priced out of the reach of the average consumer, a situation which produced a continued stagnation of domestic beef consumption throughout the 1971-1975 period.<sup>74</sup>

The poor performance of agriculture caused the government to take measures to limit exports of some food crops (wheat and rice) and, off of a very poor production year in 1973 in which output fell by 2%, saw an increase of food imports costs of 110% in the first

ten months of 1974 over the comparable period in the previous year. The government reaction also included continued substantial rises in the marketed prices of the basic agricultural commodities, which pushed the increases in food prices to a level of 24% in 1975.<sup>75</sup>

By 1975 the persistence of the problems with agriculture had led to another fundamental revision in the major aspects of the government's policy. A number of studies of the subject by Yugoslav economists and agricultural experts generally agreed that the failures in policy were chiefly to blame for the situation. The diagnoses of these analyses found, despite all of the recent policy initiatives, that the relative position of agriculture had not changed over the 1966-1975 period, and had indeed deteriorated in a number of important respects.

Over this period, for example, investment in agriculture had remained at an insufficient level and the sector's share of total investment had declined. The proposed export thrust which was to provide a large part of the incentive for agricultural expansion had also failed to occur, with agricultural exports actually falling as a proportion of total exports from 17.3% in 1965 to only 7.6% in 1975. Of increasing importance also was the worsening decline in the number and the quality of the agricultural labor force, which was now affecting the overall productivity of the agricultural sector. Low labor productivity and poor utilization of agricultural resources were only the two most obvious symptoms of this trend, which had seriously reduced the utilization of agricultural resources. According to a

number of these studies, this trend was not due so much to the modernization of certain segments of agriculture but more to the failure of policy to alter the agricultural structure and improve the economic situation of the farmer. As one author noted:

The fragmentation of agricultural holdings and the passing of a major number of such holdings into ownership of non-farmers is indicative of the rising tendency to abandon agriculture as a primary occupation. Such trends are enhanced by unfavorable tendencies regarding the demographic structure of the agricultural population, as a result of which its working potential has diminished and the financial prospects of agricultural holdings changed.<sup>76</sup>

The continued decline in agricultural land utilization, which had occurred throughout the 1960s, was further proof of the impact of these trends on agriculture. From 1971-1975 alone, the total area sown to crops fell another 17%, with that planted to cereals declining by 6% while that under industrial crops and fodder increased by 30%.<sup>77</sup>

Thus, while these factors undercut the ability of agriculture to respond to the imperatives of the government's policy, its fundamental problems (production fluctuations, lack of proper water utilization, imports of wheat and sugar) went unresolved. Not surprisingly, agriculture was unable to fulfill the dual role of meeting increased domestic demand and providing a greater surplus for export. As a result, it was unable to perform either task sufficiently.

The latest major attempt by the government to reinvigorate its agricultural policy was contained in the "Draft Outline . . ." (discussed above) in 1975, which, while reiterating the now standard ills of the agricultural sector, tried to give its development new impetus

by emphasizing its crucial export role. The document recognized that the past development of what was now termed the "agro-industrial complex" had been unsatisfactory and attributed this failure largely to the government's inadequate agrarian policies. The poor policies, and unstable market which was their result, were seen as the chief reasons why the private agricultural sector had failed to expand as expected, along with the persistence of extensive cultivation on these farms and their continued lack of cooperation with the social sector. It concluded that the current situation, which had been reinforced by the decline in the labor potential of the agricultural population, had been a major cause of the recent overall economic instability.<sup>78</sup>

There was also a more subtle change which underlie the government's position on agriculture, for now the domestic situation was becoming a secondary factor to international ones when it came to rationalizing the impetus for the new policy; as the Draft expressed it:

In view of insufficient food production at home and the food crisis in the world, and bearing in mind existing comparative advantages, the strategic importance of food, and its significance for the stability of the economy as a whole and for the balance of payments, special attention will be devoted to the development of the agricultural-industrial complex in the long-term period.<sup>79</sup>

Although the long-term goal was set as the elimination of "dependence on food imports and to increase exports of cereals, meat and meat products, fruits, and vegetables", the statement signalled a decided shift in emphasis away from the exclusive goal of domestic self-sufficiency in food as the major dimension of agricultural strategy.



For example, some of the traditional policy goals, such as self-sufficiency in wheat production, were now to be abandoned to, in the words of the Draft, make use of "favorable export-oriented possibilities". Indeed, the food shortages in the world were frequently invoked as major reasons for the new strategy. Food production was now to be geared more to trade with developing countries, which had raw material resources (most importantly oil and natural gas) not available to Yugoslavia domestically. That food and agricultural products were now to be produced as much for their strategic significance in the international market, as well as for their domestic value and their demand, was made clear by the priorities of the policy; such as in the emphasis on livestock breeding and on increasing maize production as the principal focus in accelerating agricultural production. Maize, for example, had increasingly been used as only a fodder crop in Yugoslavia, but now on the world market its value as a food crop to less developed countries had obviously increased.

The policy embodied in the Draft Statement has been followed up upon more recently in the Social Plan for 1976-1980, which projected an increased overall growth rate for agriculture of 4% (social sector at 8% and private at 3.1%). Although this again envisaged the accelerated growth of both sectors of agriculture, the basic premises of meeting domestic demand and providing an exportable surplus remained unchanged.<sup>80</sup>

Both policy pronouncements, however, like their predecessors still appear to be long on prescriptions and short on implementation.



Although both, under the influence of the new emphasis on long-term planning, called for an "active and successful agrarian policy", the social sector has remained the focal point of agricultural development, and the primary means of implementation of policy has been left to social compacts at the Republic/Province level and below--the same strategy which has not worked in the past.

Meanwhile, the domestic situation goes on relatively unchanged from that of the past decade, and worse in some important respects. Rising food prices, which topped 14% and 18% in 1976 and 1977 respectively, are still the most serious food-related problem for consumers. This inflation in food costs has been affected by a number of government measures in pricing policy in 1976-1977, which have considerably increased prices for some basic foodstuffs which were judged to in plentiful supply in the domestic market (these included bread, flour, meat, and edible oils). These measures eliminated subsidies for those products and increased minimum prices for others as well.

The pricing policies have had some beneficial affects, particularly on industrial crops like sugarbeet, sunflower, and maize which had record harvests in 1977. But production in food crops was not nearly as successful. Despite the second highest wheat crop in a decade in 1976, imports in the amount of 863,000 tons--a level comparable to the early 1960s--were required in that year, the highest amount in a decade. Among other food imports, sugar imports, which were below 100,000 tons in 1974-1975, jumped to nearly 300,000 tons in 1976. Total food and animal product imports again had approached

8% of import costs in that year while, at the same time, agricultural exports failed to increase significantly.<sup>81</sup>

A number of other important goals of agricultural policy have also not been achieved. Chief among these has been the failure to make much further progress in the "socialization" of the agricultural sector in the 1970s. The agricultural area in the socialized sector increased by only 0.7% in the 1972-1976 period and the total number of cooperators in livestock and crop production, whose expansion had been a priority, actually declined by 1,000 in the same period. In addition, the trend in land utilization away from food-crop growing also continued, as the area under wheat and maize declined by another 17% between 1971-1977, while that under industrial crops increased slightly.<sup>82</sup>

In summary, it appears on the basis of the most recent evidence that the large part of Yugoslavia's chronic agricultural difficulties have not been remedied by the government's policy responses in this area. Most of the problems which have plagued this sector throughout the postwar period remain unresolved. One would never know this, however, based on some of the government's most recent assessments of the situation. The current government strategy appears to be to emphasize the positive aspects of the situation. A good example is contained in President Tito's report to the 11th Party Congress of the LCY in 1978. After citing the generally positive performance of agriculture in certain areas over the past few years, Tito went on to declare that: "Today our farmers are able to produce enough

staple food to feed our own population and also to provide considerable quantities for export."<sup>83</sup> Such has not been the case in all circumstances, however, and Tito's overly optimistic appraisal belied the persistence of agriculture's problems, problems which had not been significantly altered by his government's agricultural policies.

### Population

Introduction. Among the three issues under consideration in this chapter, the parameters of the population "issue" most clearly reflect the unique characteristics of the Yugoslav national context. The major dimensions of Yugoslavia's population situation cannot be understood without reference to the multi-ethnic makeup of the country and its eight constituent regions, for it plays a determinant role as the basis for the national perspective of the population issue.

It is perhaps best then to begin with what the population issue does not involve at the national level, and then move to a consideration of the important aspects of the issue as it is subsequently defined. At the national level, population growth rates and demographic pressure do not constitute major developmental problems for the government. The most recently available estimates of Yugoslavia's population characteristics present a picture of a state which is demographically quite comparable to the rest of Europe. The population of Yugoslavia is approximately 22 million, with a density of 84 persons per square kilometer, and a growth rate which has been at 1% or less over the past decade. The birth rate is estimated to be

at 18 per 1000; the death rate at 8 per 1000; and the life expectancy is around 68 years. The only demographic measure which seemingly does not fit these conditions is the infant mortality rate which, although it has declined consistently over the past decade, remains at about 36 per 1000, more than twice the average rate for Europe.<sup>84</sup>

But, as with Brazil, a full understanding of the population issue cannot be achieved without reference to the wide variabilities in population characteristics among the regions of Yugoslavia, which constitute the most distinguishing feature of the national population picture. These regional variations in Yugoslavia have been given greater impact by their delineation largely along ethnic lines as well. Of all the eight regions only one, Bosnia-Hercegovina, is not dominated by one ethnic group, as the ethnic factor played a major part in the drawing up of most regional boundaries.<sup>85</sup> The concept of ethnic autonomy and identity is one which has been preserved by the institutional structure, as noted in the Introduction above, and is an idea which has grown in popularity in recent years, significantly undercutting the hopes of achieving greater Yugoslav national identity.<sup>86</sup> Thus, in relation to the variations in population characteristics, much of the variations among Republics/Provinces also constitute demographic differences along ethnic lines. As will be seen, this has complicated discussion of some population-related issues at the national level (e.g. control of growth rates and inter-Republic migration), by opening them to the charge of being associated with ethnically motivated goals.

In addition, the developmental differences among the Republics/Provinces, manifested through their dissimilarities in history, social structure, religion, and customs, have also affected the perception of the population issue at the national level. These differences have served to undercut the validity of some national population characteristics and have caused some demographic aspects (e.g. birth rate and population density) to fluctuate widely in importance among the regions (see Table 19). The result has been a difficult context in which to apply a "national" policy in this area; as one study concluded:

Variations in population growth patterns existed in the different regions and complicated the establishment of broad government programs designed to influence population growth. Regional differences in population densities, growth rates, and pressure upon land and other resources have greatly complicated the definition of desirable population goals and the implementation of guidelines for the nation as a whole.<sup>87</sup>

Despite the difficulties presented by the regional and ethnic factors, the Yugoslav government has attempted to carry out a national policy in the population area. It has, however, been a policy which has largely confined itself to the less controversial aspects of this issue: in this case these include infant mortality and abortion rates, and the problems associated with internal and external migration. Overall, the national population policy has been defined in a manner which has studiously avoided connection with the potentially incendiary ethnic and nationality issue.

Population policy to 1970. Prior to 1970, official public discussion

TABLE 19

MAJOR POPULATION CHARACTERISTICS OF THE  
REPUBLICS AND PROVINCES, 1971

	<u>Developed</u>				<u>Underdeveloped</u>		
	Croatia	Serbia Proper	Slovenia	Vojvodina	Kosovo	Macedonia	Montenegro
Birth Rate*	14.4	14.9	16.7	12.9	36.7	23.1	19.0
Death Rate*	10.1	8.8	10.4	9.8	8.1	7.6	5.8
Infant* Mortality	29.5	38.2	21.4	21.8	89.6	81.9	34.6
Rate of* Natural Increase	4.3	6.1	6.3	3.1	28.6	15.5	13.2
							15.0

SOURCE: Statistički Godišnjak Jugoslavije, 1972. Beograd: 1972.

\*rate per 1,000 of population.



of the population issue was most often concerned with methods to deal with the comparatively high infant mortality rate throughout the country. In the latter part of the 1960s, however, policies in this area also became concerned with the issue of abortion and its high incidence in the country. Since that time, much of the policy activity in this area has been directed at supplanting abortion, which is the most frequent form of birth control utilized in the country, with other, less costly, methods of contraception, in the hopes of making the control of unwanted births a more humane process than at present.

Throughout the 1960s the Tito government was always passively pro-family planning, although it is still possible to find a body of legislation in health and labor related fields which tends to foster population increase. Among these are included a system of financial incentives which provide for free maternity care, compensation for work time lost during pregnancy, and a family allowance scheme in which the rate of compensation increases with each additional child.<sup>88</sup> These incentives have, however, been outweighed by others which have exercised both direct and indirect influence on reproductive patterns and, therefore, kept the population growth rate at 1.1% for the 1950-1970 period.

The most important of these has been the ready availability of clinical abortions since the early 1950s. Under the Tito government, abortion has been legalized since 1952--when it was legalized primarily for health reasons and to eliminate illegal abortions--and its incidence

progressively increased to where it was by far the dominant method of controlling unwanted births in the 1960s. In addition to abortion, the government's policies which encouraged industrialization and discouraged extensive agricultural cultivation in these years both served as dampening affects on population growth. The large scale rural to urban migration encouraged by industrialization had a significant affect in this area, as it drew people to the cities where value changes and housing shortages, among other factors, discouraged having large families. At the same time, the agricultural policies of the government, particularly toward the private sector, undercut the economic benefits of large rural families--through limitations on land-holdings--and encouraged a capital intensive type of agricultural development.<sup>89</sup>

But although there was no real concern with the population growth rate in this period, there was a growing interest in encouraging family planning, which gained support both as an alternative to abortion and, as a part of a wider push for increasing women's rights in Yugoslavia. The first important support for family planning came in the early 1960s when the Conference for Social Activity of Women in Yugoslavia formed a Coordinating Committee for Family Planning. Their support for family planning was placed in the wider context of a movement to alter women's position in Yugoslavia and, in their words, was:

. . . aimed at elimination from the sphere of human relations of all factors which, as a heritage of the past, hampers the development of co-equal relations between the partners in marriage, or undermine mutual responsi-

bility for the education and upbringing of children.<sup>90</sup>

The influence of this initial rationale for the concept of family planning has since been maintained, as all subsequent official discussions of family planning have emphasized, almost exclusively, its importance in widening human freedoms and independence, its emancipation of women, and its enhancement of individual responsibility. The LCY and state agencies involved in the family planning area have consistently maintained that they oppose the concept of family planning as an aspect of "population policy", and all such policies are officially condemned as inhuman, implying an unwarranted state interference upon the right of individuals to make a free choice.<sup>91</sup>

While improving the health and social status of women initially provided much of the rationale for support for family planning, over the 1960s there was also a growing interest in presenting family planning as a preferable alternative to abortion as the primary means of controlling unwanted births in the country.

Both of these reasons played major roles in the growing official support for family planning, which culminated in the 1960s with the passage of a resolution on family planning at the 9th Congress of the LCY in 1969 and, subsequently, a Federal Assembly Resolution on Family Planning. The Assembly resolution laid emphasis on the concept of family planning as a basic human right and duty of parents, a right which now necessitated state intervention if it was to be properly exercised:

For this to be feasible, society should make it possible for married couples to get information about

modern methods of birth control and provide them with adequate means to plan families so they can decide how many children they will have and at what intervals.<sup>92</sup>

But though government intervention was to increase, it was still not to be construed as support for population control. Rather, family planning had a multiplicity of benefits for all concerned, none of which had to do with control of population growth: "Family planning, as a lasting human and social effort, will bring about very significant social, health, economic, political and other advantages."<sup>93</sup>

It was becoming clearer, however, that aside from these individual rights' concerns, which were often couched in glowing generalized terms, that a more concrete concern with the abortion rate in Yugoslavia was also equally informing family planning's popularity. This could be seen in the latest amendments to the 1952 abortion law in 1969 which attempted to tighten the conditions under which an abortion took place. The incidence of abortion, which was available through clinics virtually on demand, had grown to alarming proportions in the late 1960s, constituting a proportion equal to fully 70% of all live births in the country in 1967. The revisions in the abortion law attempted to combat this high incidence by now requiring that the patient be made aware of the physical and mental health dangers involved and, also be encouraged to utilize contraceptive techniques instead in the future. As the Assembly resolution expressed it: ". . . interruption of pregnancy as the least desirable form of birth control, is only an extreme means . . . ", which now was to be supplanted by the preferable alternative of family planning.<sup>94</sup>

As part of this move to increase family planning and contraception practices, by the end of the 1960s the government had initiated a number of additional measures in this field. Part of the expense of abortions, for example, was now to be borne by the client as a disincentive to this option, a change in policy precipitated by the realization that economic costs and wastage of medical expertise on performing abortions was now reaching unacceptable limits, which should not be shared by the society as a whole.<sup>95</sup> At the same time, a new Federal law on Health Insurance authorized the Republics to extend the availability of free contraceptives to all such means and citizens; until this time only the pill was free when prescribed as a medicine and it was only available to those covered by health insurance—approximately 63% of the population in 1969.

Despite all of this policy activity at the national level, however, there were similar problems, as we have seen in the energy and food areas, with the implementation of these goals. Much of what was passed at the Federal level, for example, were only guidelines which were subject to the interpretation of each Republic/Province, and even each commune. The Federal Resolution on Family Planning, for instance, only directly applied to the "basic conditions under which pregnancy may legally be interrupted"; the rest was left to the lower administrative levels, because, as the Resolution expressed it:

In view of the existing differences in the level of development of the health service, its activity in contraception and its accessibility to marital partners, the general level of health culture, tradition, prejudices, etc. in individual Republics and Autonomous Provinces, these matters should be regulated in agreement with relevant social factors in a way which best



suits any particular environment.<sup>96</sup>

Party and state commitment to family planning thus was in accordance with the principles of self-management by autonomous organizations which, hopefully, would be sensitive to the "guidelines and resolutions" formulated at the national level. The implementation phase devolved to the local level; once again in the Resolution's terms:

The realization of society's views on family planning and birth control, as a means of providing the necessary conditions for the execution of society's policy in this field, calls for an active role and certain obligations on the part of the social services, research institutes, social and other organizations, associations, and institutions.<sup>97</sup>

In large part, the homogenization of the goals of population policy in this manner dissipated their intended impact. The push to substitute family planning for abortion as the primary means of contraception was not that successful, as many regions encountered funding problems in implementing the national initiatives. The best evidence of this came out of the first country-wide survey of family planning in 1970. The survey found that abortion was still the most common method of birth control by far, with 45% of married respondents utilizing this method to only 4.6% who used contraceptive devices.<sup>98</sup> The successful implementation of this policy clearly had a long way to go.

Population policy 1971 to the present. In the 1970s the government's orientation in the population area has shifted, somewhat, toward a greater concern with the problems that the widespread migration the society has recently experienced have presented to the future develop-



ment of the country. As the general economic conditions throughout the country have deteriorated over the past few years, there has been a growing awareness of the need to exercise more direct control over migration patterns to ameliorate their economic effects. Thus, recent efforts in the population area have focused on the issue of internal migration, and national policy has begun to wrestle with the difficulty presented by the national and ethnic factors to the formulation of an adequate strategy in this area.

While the problem of migration has progressively assumed greater importance due to economic developments, the government has also maintained its interest in the related issues of infant mortality and family planning throughout the 1970s. The successes in each of these areas have not met with expectations recently, and they are still included among the priorities for an effective population policy.

In the area of infant mortality, there has been a significant reduction in the national rate since 1971, as it has fallen from 49 per 1000 to around 36 per 1000 in 1977. But the overall rate is still high for Europe, to which Yugoslavia compares itself, and it is particularly high in some of the underdeveloped regions of the country (i.e. 80 per 1000 in Kosovo). As such, infant mortality has been singled out in a recent government study as the single most important problem of child care in the country and, in the "Draft Outline . . ." of 1975, its reduction was seen as a necessity for the future improvement in the standard of living.<sup>99</sup>

The successes in the spread of family planning practices and the

reduction in the incidence of abortion have not been as great, however. A significant step was taken in this area when family planning was formally institutionalized in the 1974 Constitution. The concept of planned parenthood was integrated into the sections dealing with education, information, and health protection, and specific reference was made to the "rights" of parents to plan the number and timing of their children--a right which was now theoretically enforceable before the law.<sup>100</sup>

The central focus on family planning was retained in the most recent articulation of Yugoslavia's "national" population policy which followed in the "Draft Outline . . .", in 1975. In this document the more equitable spread of family planning practices among all regions of the country was encouraged as the most preferable method of reducing the growing interregional demographic disparities:

Common policy should strive for a moderate birth rate which will with time bring about a decrease in existing demographic, social, and economic irrationalities, the elimination of discrimination with respect to child-bearing, and the realization of parents' rights to decide on the size of the family. Society should create conditions under which it will be possible to humanize and rationalize natality, and to make information on and means for regulating child-bearing accessible to all its members, regardless of the area in which they live, and of their social status, education and other factors.<sup>101</sup>

By the late 1970s, provision of professional family planning services had also been instituted as a legal aspect of maternity care as well, and the government had continued to expand the free availability of contraceptives and contraceptive information. All of these measures had some effect, with the number of women using

family planning services increasing by about 72% over the 1968-1976 period. In addition, total expenditures on contraceptives over the same period increased by about seven times.

But the accomplishments toward displacing abortion as the primary means of birth control had been minimal, as the incidence of abortion progressively increased during the 1970s. Most recently, officials have estimated that approximately 300,000 legal abortions are performed yearly in Yugoslavia and, according to one authoritative source, the unfavorable consequences for the health of women and the great material loss incurred have made it an increasing problem.<sup>102</sup>

Along with the problem of infant mortality and the push for family planning, the other issue which has drawn increasing government attention in the population area has been the worsening economic consequences which the regional demographic disparities have had on the developmental chances of the country. As the economic situation has deteriorated in the 1970s, this issue has become more relevant as a developmental problem, since the consequences of a higher population growth rate in some regions has become more obvious.

The aspect of this problem which the government has chosen to focus upon, however, has been the least controversial one of migration, both internal and external, and it has been in this area that the government has begun to try to exert some control.

External migration to other European countries for work had been a popular option of a great number of Yugoslav workers in the 1960s, due to the lack of adequate work opportunities in some areas

of Yugoslavia and the lure of much higher pay scales in other European countries.<sup>103</sup> This migration went largely unregulated and by the early 1970s it had begun to reach alarming proportions with, according to one estimate, 20 Yugoslavs employed abroad for every 100 employed domestically. Initially, this large migration of persons--which the government referred to as "temporarily employed abroad"--had significant economic benefits for the government, since it kept the unemployment rate down and provided a major source of foreign exchange flowing back into the country. According to the OECD, for example, it was estimated that in 1971 7% of the labor force was employed abroad with annual earnings estimated at \$2.5 billion, as compared to a total domestic wage bill in that year of \$5 billion.<sup>104</sup>

By the mid 1970s, however, with the worsening economic situation, the benefits of this huge migration were beginning to be outweighed by the economic costs. Because the migration pattern had been largely unregulated, it had come disproportionately from the developed regions where growth was being held back to an extent to foster more rapid growth in the underdeveloped regions. This had depressed employment opportunities in these regions and, as a consequence, had led to a larger outflow from these areas. When the government realized this, it had stepped in and tried to encourage more migration from the economically depressed areas by selectively disseminating information on foreign employment to these regions. The government had little success in regulating migration in this manner, however, and by 1973 the "official" position of Yugoslav

authorities was that employment abroad had reached the maximum acceptable levels, and sterner measures were taken to reduce and control the composition of migrants.<sup>105</sup>

At the same time that the Yugoslav government had decided to exercise more influence over migration, the affects of the world recession were beginning to be felt throughout Europe, a circumstance which effectively reversed the migration trend, as, most often, the migrants were the first to be layed off in their host country. These developments had a devastating affect on the flow of Yugoslav migrants to Europe. According to one source, in the short span between 1973-1975, the number of yearly Yugoslav migrants to Europe fell from 100,000 to 15,000.<sup>106</sup>

The drastic reduction in emigration in this period has added considerably to the economic problems of the government, as it has had the double effect of undercutting a crucial source of foreign exchange and added to the pressures on domestic employment. Unemployment, for example, has risen steadily in the 1970s, and by 1978 had reached an unprecedented level of 12%.

The problems attended by the decrease in external migration have once again, however, exhibited significant internal variabilities; as unemployment, for example, has become a more pressing problem in the underdeveloped regions. The affects of the country's economic difficulties are clearly being felt more harshly in the already depressed regions of the country.

The most recent strategy which the national government has



chosen to follow in this area now focuses on formulating a policy which will control internal migration and, thereby, hopefully ameliorate the most serious economic affects of the regional demographic variabilities. The preference for this strategy, as opposed to one which would more directly affect population growth rates, is based upon the findings of a recent study by the Centre for Demographic Research in Belgrade. This 1975 study projects that the major disparities in fertility rates among the Republics/Provinces will considerably decrease by the year 2000. More importantly, it projects that pressure on employment will peak in 1985 and then gradually diminish, with an overall decline in the proportion of the working age population in the total population.<sup>107</sup>

While the employment pressures on the whole society will decrease, however, the working age population will continue to increase in the underdeveloped regions for the foreseeable future. Based on the findings of his study, the author concludes:

Separate projections for the republics/provinces have been primarily made for purposes of drawing up separate socio-economic plans for these regions, and because of the different level of demographic development, which determines the different tempo of their future development.<sup>108</sup>

The projections of the Centre's study thus initially informed the choice of an internal migration policy as the best means to cope with the continued employment problems of the underdeveloped regions. The support for this policy at the national level was most clearly articulated in the "Draft Outline . . ." in 1975, when a migration policy was proposed as the primary means which would be utilized to



eliminate regional economic and demographic differences:

Our self-management socialist society should devote special attention to internal population migration because it will continue to play an important role in the elimination of regional differences. Social guidance of internal migration based on agreements should be a significant component of common policy.<sup>109</sup>

The obstacles to the implementation of such a policy are, understandably, quite substantial. Among them is the fact that internal migration in Yugoslavia has, thus far, been largely an intra-Republic phenomena which has involved movement from rural to urban areas, not from one Republic to another.<sup>110</sup> The ethnic and nationality factors have clearly been the determinant factors in the lack of inter-Republic migration, and any policy which attempts to control or encourage population movements as an aspect of development policy in Yugoslavia will have to overcome their restrictive affects. Once again, the success of such a policy will depend on a much greater degree of cooperation among the Republics and Provinces than has as yet occurred--a persistent problem which has plagued the implementation phase of all of the policy areas which have been discussed in this chapter.<sup>111</sup>

In summary, the population situation of Yugoslavia, while most closely akin nationally to that of an advanced industrialized state, remains dominated by factors which a global or even cursory national level could not give proper value. Despite a relatively low population growth rate over the past three decades, these factors of ethnicity and regional variation have given an immediacy to the population issue in Yugoslavia which, from the global level, might

not be apparent.

## CHAPTER V

### THE "ISSUES" OF ENERGY, POPULATION, AND FOOD IN THE UNITED STATES

#### Introduction

Of the four political systems under consideration in this study, the United States exhibits the lowest degree of centralization in its policy-making apparatus. Although formal "national" policy-making power officially resides in the Congress, the formulation of federal policy usually consists of an amalgam of Executive initiatives, interest group pressure, Congressional acts, and the administrative policies of the involved federal bureaucracies, while its successful implementation involves the participation of a number of different levels of government and private organizations. The structural constraints imposed by this multiplicity of actors in the policy-making process often precludes the formation of an effective national policy. In many areas, including those under consideration in this chapter, federal policy is distinguished by its less than compulsory character, with its effectiveness depending instead on the voluntary participation of the lower levels of government and private organizations at which it is directed.

Consequently, much of what is labeled federal or "national" policy in this chapter serves primarily a directive function, by establishing the parameters under which other levels of government and private organizations and individuals are allowed to function,

thereupon relying upon their induced participation to carry out the implementation of the policy and its goals. In this context, at the federal level the creation of a new bureaucratic organization, such as the Federal Energy Office or the Center for Population Research, is often the clearest signal that an "issue" has been recognized as having national significance. The institution of a federal role then, more often than not largely involves the initiation of a financial commitment and the creation of inducements for the involved lower governmental levels and private organizations to activate the policy. While the U.S. government's role in different policy areas may fluctuate considerably, in the three areas under consideration here federal government activities primarily follow this approach (see the discussions of energy and food policy in particular).<sup>1</sup>

During the period under consideration in this chapter, the economic situation has exercised a determinant influence over the level of government activity in the energy, population, and food areas. Throughout this period the fundamental developmental priorities which have informed government policy have been the maintenance of economic stability and the continuation of economic growth at a satisfactory pace. The increasingly precarious economic situation, manifested by the world decline of the dollar, the growing trade deficits, and the persistence of a corrosive inflation rate, has exerted an important affect on the shifts in government policy in these areas. The level of federal government commitment in the food and population areas, for example, has varied considerably in recent years as inflation has

assumed a growing precedence. At the same time, the energy issue has achieved a greater prominence as, among the three issues, it has been perceived to be the most serious and direct threat to the maintenance of economic stability.

The following sections will present an overview of the energy, food, and population situations in the United States and will review the important developments which have occurred in these areas over roughly the past decade. This account will provide the essential background for an analysis of the present state of the U.S. government's policies in these areas and of the major factors which have influenced their formulation. The primary purpose is to characterize the government's perception of these issues by drawing upon the policy responses as the primary representation of the government's understanding and treatment of these issues.

### Energy

Introduction. The energy issue has been, along with inflation, the dominant domestic issue in the United States during the 1970s. There have been perhaps more "major" addresses directed at this issue--Carter alone has now given five--than at any other over the past decade, as a procession of Administrations has wrestled with an issue which has proved to be exceedingly difficult to confront. Given its position as the world's largest consumer of energy, it is not surprising that the recent alterations in the world's energy distribution and market system have had a substantial impact on the United States.

Indeed, it is a measure of both the United States' energy dependence and its inability to alter the situation that in 1978 the U.S., with 6% of the world's population, still consumed roughly one-third of the world's energy--a figure not substantially different from that of 1973 when the impact of the world energy "crisis" was initially felt.

Growth in energy consumption has historically played a crucial role in stimulating the economic growth of the U.S., and the importance of energy--particularly of cheap and abundant oil--has increased over the past quarter century. As a major study by the Ford Foundation has pointed out, during the 1870-1950 period Gross National Product (GNP) per capita rose sixfold while energy use per capita doubled; but since 1950 energy per capita growth has actually exceeded per capita growth in production, with energy consumption growing at a 4.5% rate during 1965-1973 alone.<sup>2</sup> The increasing energy intensity of the U.S. economy has fueled the widespread belief that these increasing levels of energy consumption were necessary for a healthy growing economy. This is a position which has now come under serious challenge, but, as will be seen, this belief has been the foundation for much of the government's energy policies, which have primarily been concerned with securing a stable and sufficient supply of energy for continued economic growth.<sup>3</sup>

Moreover, this accelerated energy consumption has been characterized by a shift away from the energy source which the U.S. has in the greatest abundance (coal), toward increased utilization of fuels which are of much more limited supply (oil and natural gas). For example, between 1950-1977 oil and gas' share of total energy



consumption increased from 58% to 77%, while coal's share declined from 50% in 1945 to about 18% in 1977. The demand for oil in particular has grown dramatically, increasing at an annual rate of 4.4% between the end of World War II and 1972, with total consumption nearly tripling between 1960-1972 alone.<sup>4</sup>

More importantly, this accelerated increase in demand occurred at the same time that domestic production of these two energy resources was reaching its upper limits and beginning to fall off significantly.<sup>5</sup> The natural gas situation was the worst, as discovered reserves of gas peaked in 1967 and then fell off precipitously into the 1970s.<sup>6</sup> In fact, it was the inability to meet growing demand for natural gas which contributed to the increased demand for the next best substitute, oil--a demand which was increasingly met by imports in the early 1970s as domestic production proved unable to meet domestic requirements.<sup>7</sup> Thus, on the eve of the Arab oil embargo, which was to be the country's first serious brush with the energy "crisis", the U.S.'s energy demand pattern was already placing growing pressure on those two sources of energy which it was becoming least able to supply in sufficient quantities.

In the face of these developments in energy demand patterns, the importance of the U.S.'s domestic energy resources has understandably grown. Under the closer scrutiny which has accompanied our greater energy awareness, however, the country's energy resources have been found to have serious limitations as, over the last decade, they have become increasingly unsuitable for meeting the country's critical

energy needs.<sup>8</sup>

For example, according to most estimates the U.S. has approximately 28% of the world's coal resources, which constitute fully 90% of the country's total energy resources. Recoverable reserves are conservatively estimated at 450 billion tons under existing recovery methods. There are, however, major constraints to coal's expanded use, including its suitability as a substitute for oil and natural gas, the environmental hazards entailed in its mining and usage, and transportation costs and obstacles.<sup>9</sup> All of these factors have combined to discourage any serious expansion in coal usage since 1973, when, in response to the oil embargo, the greater exploitation of coal resources was first encouraged.

While the abundance of coal resources is well known and accepted, the most recent estimates of the extent of the U.S.'s oil and gas resources have been the subject of much dispute. The estimates of these resources have fluctuated drastically since the early 1970s when increased attention was focused on the methods by which such estimates were computed.<sup>10</sup> As a result, in general the estimates of the U.S.'s total oil and gas reserves have declined since 1970, when totals included much more optimistic appraisals of unexplored areas such as the Outer Continental Shelf (OCS). The estimates of "proved reserves" of oil and natural gas--defined as amounts reasonably certain of being recovered from known reservoirs--which are the most dependable measure, have progressively declined in the 1970s, with oil at 27.8 billion barrels at the end of 1978, and natural gas at 209 trillion cubic feet

at the end of 1977.<sup>11</sup> Based on recent discovery trends, and barring major technological breakthroughs in oil shale recovery and geopresurized gas recovery, the outlook is bleak if current rates of consumption are maintained, for current domestic reserves of oil and gas would be exhausted by around 2010 according to the Department of Energy.<sup>12</sup>

The country's other two major energy resources are hydropower and nuclear power. Hydrosources, however, are not abundant and it has been estimated that the U.S. has already exploited over one half of the existing hydropower potential, with few, if any, large-scale potential sites remaining to be exploited. Hydropower's share of total electricity generation has declined during the 1970s and in 1977 was the source of 10.4% of electricity generated.<sup>13</sup>

The country's nuclear resources are, on the other hand, quite abundant and appear sufficient to provide adequate fuel resources for expansion of nuclear power plants and generation facilities for the foreseeable future. But while fuel resources have not yet been a problem for the nuclear industry, its expansion has been limited in the 1970s by inadequate growth in electrical demand, increased costs in plant construction and electrical generation, and by increasing questions concerning safety of plant operation and nuclear waste disposal. Even before these latter factors were dramatized by the Three Mile Island episode the nuclear industry was experiencing serious economic difficulties. The growth in electricity demand, which had averaged 7% annually over the previous decade, was virtually halted in 1973 by the aftereffects of the oil embargo, and over the 1974-1976 period

electricity demand stagnated. As a consequence, the demand for new nuclear plants fell, as utilities cancelled plans for 23 reactors and deferred plans for building another 143 reactors in the three year period. Even when electricity demand rebounded, growing at an average annual rate of 5.3% in 1976-1977, it did not turn the nuclear decline around. In these two years eight more reactors were cancelled and plans deferred for 50 more; since 1975 new orders have totaled only 13. The increased costs of building nuclear plants were cited by the utilities as the primary reason for their inability to follow through on construction plans in this period, a factor which will clearly become more crucial as safety concerns continue to add to plant construction costs and, thereby, undermine one of nuclear's primary economic attractions in the past, its comparative costs.<sup>14</sup>

Energy policy prior to the embargo. Prior to the 1970s there was little official concern with the need for any kind of comprehensive energy policy. Although there had been instances of energy-related difficulties in the electricity sector in the mid 1960s, such as the increased frequency of brownouts and the great Northeast blackout, little official action had resulted. These temporary shortages in supply were being caused by an annual increase in electricity demand of 7% a year which, it was expected, would eventually be satisfied by the rapid expansion of nuclear generation, an area which the government had heavily subsidized since the inception of nuclear power during World War II. National energy policy, if one could call it that, emanated from a variety of federal sources at this time, including the Departments of

Interior, Treasury, State, Defense, Commerce, and, from another group of agencies such as the Atomic Energy Commission, the Federal Power Commission, and the Environmental Protection Agency. Taken together, policies at the federal level essentially combined to stimulate both energy usage and, secondarily, the continued expansion of supply, utilizing manipulation of the pricing mechanism and tax incentives as the primary means to achieve these ends.<sup>15</sup>

In the early 1970s, however, the United States' domestic energy situation began to deteriorate as the limits of domestic energy production began to be reached, while energy demand continued its upward path. Total U.S. energy demand increased 4% annually between 1970-1973, with oil and natural gas providing roughly 75% of primary energy needs by 1973. In this same period, domestic production of oil peaked in 1970 and then declined, while, in 1972, production of natural gas peaked as well. In order to fill the void left by this fall-off, imports of oil grew at about a 21% annual rate during 1970-1973, rising from filling 23% of demand to 36% by 1973 (see Table 20).

In addition, the prospects for a future decrease in the role of imports was less than optimistic. A study by the National Petroleum Council in 1971 projected that demand for crude petroleum would nearly double in the 1970-1985 period, and to meet this demand, because of poor domestic prospects, it would require a quadrupling of oil imports by 1985 to an equivalent of 57% of total demand.<sup>16</sup>

In the early 1970s, the government's response to changes in the energy situation was aimed exclusively at maintaining a sufficient

TABLE 20

## THE UNITED STATES' OIL AND NATURAL GAS SITUATION, 1968-1978

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Domestic Production*	10.6	10.8	11.3	11.2	11.2	10.9	10.5	10.0	9.7	9.8	10.4
Volume of Imports*	2.8	3.2	3.4	3.9	4.7	6.2	6.1	6.0	7.3	8.8	8.1
Cost of Imports@	2.3	2.6	2.8	3.3	4.3	7.7	24.3	25.0	31.4	41.1	38.6
Oil Imports as Percentage of Total Consumption	21%	23%	23%	26%	30%	36%	37%	38%	43%	47%	44%
Natural Gas Production#	-	-	21.9	-	22.5	22.6	21.6	20.1	19.5	19.9	-

SOURCE: Petroleum Independent, April 1979; International Monetary Fund, International Financial Statistics, Volume XXXII, April 1979.

\*millions of barrels per day.

#in trillion cubic feet.

@in \$US billions.



supply of energy to meet the growing demand. The central tool employed by the government at this time in dealing with the deteriorating domestic oil situation was the Mandatory Oil Import Program (MOIP). The MOIP had originally been established in 1959, purportedly for national security reasons, to control the flow of cheaper oil imports into the United States and preserve the domestic market for the American oil industry.<sup>17</sup> Under the pressure of the growing gap between domestic supply and demand, the MOIP's purpose was altered from that of preserving the domestic oil industry to that of assuring sufficient oil imports to satisfy demand, and stimulate domestic refinery expansion and construction. In the early 1970s the MOIP import quotas were adjusted upward a number of times by Executive Orders which ultimately allowed the volume of oil imports to increase by over 50% in the 1970-1973 period.<sup>18</sup>

In addition, the government employed a number of other measures which attempted to manipulate oil prices as a primary incentive for increasing domestic production. Chief among these was the Economic Stabilization Act of 1970 and Nixon's four phase price control program which was instituted in 1971. Under these programs the government began to differentiate between "old" oil, or oil which was under price controls, and "new" oil, or oil which was not to be under price controls. By instituting a two-tier price system it was hoped that energy prices would be kept down to reasonable levels while, at the same time, there would be sufficient price incentives for new production to occur.<sup>19</sup>

In the electrical energy area, the government had clearly

indicated that expansion of the country's nuclear capacity was the preferred route to meeting increased demand. In a June 1971 energy message to Congress, Nixon had declared the administration's priorities in this area:

A sufficient supply of clean energy is essential if we are to sustain healthy economic growth and improve the quality of our national life. Our best hope today for meeting the nation's growing demand for economical clean energy lies with the fast breeder reactor.<sup>20</sup>

Indeed, in the early seventies, the development of nuclear power was the one energy-related area which was being pursued with substantial federal funding, with fully 85% of all federal energy research and development funds being allocated to the nuclear area in 1973.<sup>21</sup>

These piecemeal responses by the government to the deterioration in the domestic energy situation proved to be inadequate however, and by early 1973 the government was forced to take more drastic action. After some areas of the country experienced fuel oil shortages in the Winter of 1972-1973, the President announced that some major new initiatives would be implemented to improve the declining oil and natural gas situation. The most important of these was the termination of the MOIP and its replacement by a license-fee system which removed all existing tariffs and quantity restrictions on oil imports, a move which would lead to unrestricted imports by 1980. In addition, a National Energy Office was created to coordinate the response to what had now, according to Nixon, become an energy "challenge". This response was to be almost exclusively directed at increasing energy

supplies, a task which, in the President's words, the country was quite capable of meeting, for ". . . long before our present energy sources are exhausted, America's vast capabilities in research and development can provide us with new, clean, and virtually unlimited sources of power."<sup>22</sup>

Essentially, the strategy of the Nixon administration was to rely on increased imports to prevent shortages in the short-term, while it was hoped that in the long-term domestic production would recoup through government initiatives to step up exploration and development. It was, as future events would indicate, a particularly inopportune time to increase the U.S.'s reliance on imports and, at its base, vastly overestimated the country's ability to meet its own critical energy needs.

Energy policy 1973-1976: the response to the embargo. The serious inadequacies of the nation's energy policies were clearly revealed in late 1973, when a number of Arab countries placed an embargo on oil exports to the United States and other Western countries for their support of Israel in the Middle East. This cutoff of what was, at the time, a relatively minor supply of oil changed the energy "challenge" to the energy "crisis", and provoked a response from the government which was noteworthy for illustrating just how little the government knew about the country's total energy situation at the time.<sup>23</sup>

The immediate effects of the Arab countries' actions was a short-fall in oil supplies in the United States and a rapid escalation in the

world price of oil--from \$3.00 per barrel in October 1973 to \$11.65 per barrel by January of 1974. In response, the government precipitously proposed Project Independence, a program unveiled by Nixon in a November 1973 national address when he declared: "Let us set as our national goal . . . that by the end of this decade we will have developed the potential to meet our own energy needs without depending on any foreign sources."<sup>24</sup> The program set the goal of complete energy independence by 1980, a goal which was the product of an almost fanciful optimism concerning the energy situation; a position perhaps best exemplified by then Federal Energy Administrator William Simon when he said:

The energy problem, as far as the United States is concerned, is the most infinitely soluble problem in our country today. We have been blessed with a superabundance of natural resources and technology. We have the ability to become self-sufficient. We are today domestically 85 percent self-sufficient in energy--that other 15 percent is going to be achieved over the next decade to decade and a half.<sup>25</sup>

The aura of possible energy independence in the near future quickly faded, however, and by early 1974 in his statements Nixon had reduced the goal to ". . . a point where we are no longer dependent to any significant extent upon potentially insecure foreign supplies of energy."<sup>26</sup> By late 1974, when the Federal Energy Administration released its Project Independence Report--containing the most comprehensive government appraisal of the domestic energy situation ever compiled--the goal of "independence" had been effectively revised to "allowing a safe level of imports" by 1985.<sup>27</sup> Even then, however, the more limited goals required a massive increase in production of

domestic energy supplies over the remainder of the decade. In its major recommendations the Report called for a tripling of coal production by 1985, an increase in domestic oil production of 28% by 1980, an increase of 32% in natural gas production by 1980, and a quadrupling of the number of nuclear power plants to 200 by 1985.<sup>28</sup>

In addition to the proposal of the Project Independence program, the Nixon administration also requested a number of other measures to be enacted by Congress during 1973-1974. The administration received very little of what it requested, however, as there was serious disagreement between the administration and Congress as to the proper type of response warranted by the energy situation. The two most important measures enacted in this period were the Alaskan Pipeline bill and the Emergency Petroleum Allocation Act, both of which were sent to the President within three weeks of the imposition of the oil embargo. As with past measures, both acts were directed primarily at increasing the supply of domestic oil; the former by facilitating rapid construction of the Alaskan Pipeline, and the latter by allowing domestic oil prices to increase and expanding the amount of oil which was not subject to price controls.<sup>29</sup>

These were the only major measures to be enacted, however, as with the end of the embargo the sense of crisis vanished. In 1973, for example, the only additional Congressional response was the passage of two minor conservation measures which established a 55 mile per hour speed limit and initiated year round daylight savings time. In 1974, less was actually accomplished. The primary achievement was the creation



of the Federal Energy Administration, whose function was to manage federal efforts to cope with fuel shortages, and an Energy Research and Development Administration, which was to centralize the government's research and development efforts that had been scattered among a number of government departments.

The decline in concern over energy shortages was reinforced by an overall decline in U.S. energy demands following the oil embargo. Total energy consumption declined slightly in both 1974 and 1975, led by the falloff in electricity demand which fell nearly 7% to a near zero growth rate in 1974-1975. Domestic demand for oil fell by 4% in 1974 and another 2% in 1975 as well, reducing much of the pressure for the acceleration of domestic production.<sup>30</sup>

The falloff in demand was outdistanced by the continued decline in domestic production, however, as it fell by 8% between 1973-1975 (see Table 20). Consequently, while the volume of imports also fell off in this period, they continued to constitute an ever-increasing proportion of total domestic demand, reaching the 38% level by 1975. The continued prominence of imports, which were now subject to fairly regular costs increases by the Organization of Petroleum Exporting Countries (OPEC), shifted the focus of government concern in the energy area to the rising energy costs. After the shock of the initial massive increases in world oil prices at the time of the embargo, energy prices as a whole continued to rise at a 6.2% annual rate from 1973 to 1976. Overall, the costs of oil imports to the U.S. jumped from \$7.7 billion to \$25 billion between 1973-1975, and became a serious



drain on the country's balance of payments. According to one administration source, fully half of the 12.2% increase in the Consumer Price Index for 1974 was attributable to the increase in energy costs.<sup>31</sup>

But despite this growing concern with rising energy prices, the energy policy of the Ford administration in late 1974 and 1975 basically remained the same as that of the Nixon administration. Ford supported the goals of Project Independence and increasingly called for the deregulation of oil and natural gas prices as the best means to accomplish the goals of the program. His program, like Nixon's, essentially relied on the voluntary cooperation of the oil industry and consumers to achieve the primary goals of increased domestic production and reduced consumption. One source has neatly summarized the approach of the Ford administration at this time in commenting on the position of William Simon, a chief energy official:

Simon has repeatedly indicated his belief in the willingness of consumers to substantially, and voluntarily, reduce energy use. The administration would rely equally on American business, industry, and science to come up with the energy resources needed for self-sufficiency.<sup>32</sup>

Congress, however, refused to adopt the "conservation-by-price" approach of the administration, as well as its proposals for the deregulation of all domestic oil. Instead, in the Energy Policy and Conservation Act of 1975 it chose to retain the complex price control system over domestic oil for another four years and established a number of programs which would increase energy conservation. In its major provisions, the Act effectively extended price controls over all domestically produced oil by establishing a "composite" ceiling price,

which was the average price of a barrel of "old" and a barrel of "new" oil.<sup>33</sup> The immediate impact of the bill was an 11% reduction in the composite price of domestic oil. The reasoning, according to the provisions of the bill was to ". . . provide for a level of domestic oil prices which would both encourage production and not impede economic recovery."<sup>34</sup> It was a contradictory purpose which proved quite incapable of being achieved in the ensuing years.

In its other major aspects the Act established the authority for a strategic petroleum reserve of one billion barrels and, in the conservation area, it set future fuel economy standards for automobiles, allowed the Federal Energy Administration to order major power plants to switch to using coal in place of oil or natural gas, and issued general calls for conservation in other areas.

Upon signing the Act in December of 1975 Ford declared that "This legislation. . . puts into place the first elements of a comprehensive national energy policy." His general dissatisfaction with its failure to decontrol either oil or natural gas prices was indicated a little over a month later, however, in another energy message to Congress which reiterated the primary goal of energy independence: "We must regain our energy independence. . . during the past year we have made some progress toward achieving our energy independence goals, but the fact remains that we have a long way to go."<sup>35</sup> Ford then went on to ask Congress to act on 16 energy proposals, the most important of which called for the de-regulation of natural gas, increased production from Naval Petroleum Reserves, and acceleration of plans to build

a pipeline for natural gas transportation from Alaska to the lower forty-eight states.<sup>36</sup>

By the end of the year, however, Congress had acted on only four of the proposals. As in the past, these were aimed primarily at increasing the domestic production of energy by allowing greater production from Naval Reserves, facilitating the decision-making process on Alaskan gasline construction, and creating incentives to spur coal production on federal lands where only 3% of production occurred in 1974.

In the wake of Congressional ambivalence on energy issues, in 1976 administrative decisions made by the Federal Energy Administration and the Federal Power Commission proved to have the most direct impact on the energy situation. Under its authority the Energy Administration was able to take a number of "energy actions" which would take effect if neither the House or the Senate disapproved. Thus, by administrative decisions, the Ford administration was able to exempt more than half of the products of a barrel of crude oil--in this case residual fuel and middle distillate oil--from price controls during 1976. Also, in the natural gas area, the Federal Power Commission took actions in July which increased the nationwide ceiling price of new interstate gas, a move which would effectively triple its price over the following year.<sup>37</sup> Without the active participation of Congress then, the administration had been able to at least partially implement its de-regulation strategy. As Ford's tenure in office came to a close, however, it remained to be seen whether the price-incentive

approach would prove successful in both increasing domestic energy supplies and reducing consumption, as had been widely suggested.

By the end of 1976, nearly three years after the energy "crisis" had initially impacted on the United States, the state of the energy situation was more precarious than ever. The Energy Policy and Conservation Act stood as the only comprehensive attempt to deal with the energy problem; otherwise, the responses had been sporadic reactions to the press of events. Indeed, in retrospect, the formulation, implementation, and purpose of what constituted energy policy in these years had been an extremely disorganized affair which sought contradictory goals and oftentimes produced the opposite of what was intended. As an increasing number of analyses of energy policy in this period pointed out, where independence had been the goal, greater dependence had resulted; where increased domestic production had been the goal, declining production had been the outcome; and where decreased consumption had been the goal, continued increases had been the result.<sup>38</sup>

A quick glance at the U.S.'s energy situation in 1976 clearly reveals how inadequate the policy response had been in almost all respects. As noted above, domestic oil and natural gas production progressively declined in the 1973-1976 period, with domestic oil production reaching a ten year low in 1976. Consequently, the role of imports in meeting total demand had proportionately increased to 43% by 1976, while the cost of these imports had more than quadrupled to \$31.4 billion. In addition, the dependence on Arab oil imports in this period increased as the percentage of imports from these countries more

than doubled to 36% by 1976. At the same time, the existing incentives to increase domestic exploration and exploitation of oil and natural gas proved inadequate as well, for, despite increased drilling, the proved reserves of the country continued to decline.<sup>39</sup>

Finally, the move to encourage greater utilization of alternatives to oil and natural gas had been less than successful. Over the three years following the embargo, the energy profile of the country had not changed significantly. Coal usage, which had been the focus of the switch from oil, grew only marginally from 17.8% to 18.3% of total energy consumption, while the proportion of oil was nearly the same at 47%. The only significant decline was in the usage of natural gas, which fell 5% to 25% of total consumption, largely due to its shortage in supply.<sup>40</sup>

Energy policy: 1977 to the present. Over the last three years official interest in the energy issue has fluctuated considerably, depending largely on the state of the energy situation at any particular moment--as in the past, the more critical the immediate situation, the more likely it has been that some type of official response would be forthcoming. Consequently, the government has continued to move haltingly, and almost imperceptibly, towards a more organized approach to the energy situation. Most of the efforts of the President and Congress has been expended in voicing largely divergent interpretations of the character of the energy crisis and the best manner to deal with it. The result has been the perpetuation of a crisis-oriented, piecemeal approach to the issue, which has produced an amalgam of energy



related acts addressing very specific aspects of the issue. The comprehensive energy policy which has been persistently called for since the 1973 embargo still remains to be implemented, as once again, in July of 1979, in the face of a new round of gasoline shortages and massive oil price increases, President Carter presented the fifth major energy address of his term to the country.

This flurry of inactivity has taken place in the context of a domestic energy situation which has significantly worsened in the past three years, as energy demands resumed their upward trends amidst a continued fall-off in energy supplies and an increased dependence on energy imports. Again, it was the oil situation in which the country's energy difficulties were most manifest. Although domestic oil production recouped from its 1976 low and by 1978 had achieved its highest level since 1973--due largely to the coming on line of Alaskan production--it was still not sufficient to satisfy the resurgent demand, which renewed the necessity for increased imports after a recent period of decline.<sup>41</sup>

In 1977, for example, domestic oil production rose only 1%, while the volume of imports soared by over 20%. This was followed in 1978 by the admittedly temporary surge in domestic production of 6%, due to Alaskan production, which saw imports actually decline by about 7%. Once again, however, the prospects for 1979, according to some forecasts, are for a 6.5% increase in imports, while domestic production is expected to grow by less than one-half of one percent--total demand for all liquid petroleum products is expected to rise by about



2.4%.<sup>42</sup> If these forecasts prove correct, and based on current indications they would appear to be, oil imports will reach a record level of about 47% of total demand during 1979.<sup>43</sup>

Clearly, the most crucial aspect of the increasing dependence on oil imports has been the economic costs which have rapidly escalated in recent years. Oil import costs reached a record level of \$41 billion in 1977 and, after a slight decline in 1978, are expected to reach \$50 billion in 1979. They have been the primary cause of the massive trade deficits which the U.S. has incurred in the past two years and a leading contributor to the inflation rate, which has increased over the past three years and, once again, is expected to exceed the double-digit level in 1979 (see Table 21).

To make matters worse, these recent developments in energy demand growth and import dependence have occurred in the context of a continued deterioration in the domestic energy resource picture. In the past three years the U.S.'s proved crude oil reserves have continued their eight year decline, falling by 4.7% in 1977 and 6% in 1978, to a level of 27.8 billion barrels at the end of 1978, fully 25% below their 1973 level. Natural gas reserves have likewise followed a similar trend, falling to 209 trillion cubic feet by the end of 1977, a 21% decline from their 1973 level. Moreover, these declines have occurred despite a 70% increase in exploratory drilling since 1973; a fact which has raised considerable doubt about the ultimate extent of the U.S.'s remaining reserves of these two energy resources.<sup>44</sup>

In the wake of these developments in the country's energy situa-

TABLE 21

## ECONOMIC INDICATORS FOR THE UNITED STATES, 1967-1978

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Trade* Balance	3.8	.6	.6	2.6	-2.2	-6.4	.911	-5.3	9.0	-9.4	-31.1	-34.1
GNP Growth@	2.7	4.4	2.6	-.3	3.0	5.7	5.5	-1.4	-1.3	5.7	4.9	4.0
Consumer# Price Index	3.0	4.7	6.1	5.5	3.4	3.4	8.8	12.2	7.0	4.8	6.8	9.0
Food Price Increase#	1.2	4.3	7.2	2.2	4.3	4.7	20.1	12.2	6.5	0.6	8.0	11.8
Unemployment#	3.8	3.6	3.5	4.9	5.9	5.6	4.9	5.6	8.5	7.7	7.1	6.0

SOURCE: Council of Economic Advisors, Economic Indicators, April 1979. Prepared for U.S. Congress, Joint Economic Committee, 96th Congress, 1st Session, 1979.

\*in \$US billions.

@percentage growth in constant 1972 dollars.

#in percentage.

tion, the current administration has continued to rely primarily on manipulation of energy prices as its chief method to deal with energy shortages, and achieve the dual goals of cutting consumption and expanding supply. While initially it appeared that, under President Carter, the government would try to rely more on conservation and cuts in consumption to achieve its energy goals than had past administrations, its most important measures have ultimately relied on increased energy costs as a major determinant of their success.

Carter's first attempt to deal with the energy situation came shortly after his inauguration when, in April of 1977, he sent his first major energy address to Congress. He clearly indicated that he viewed this issue with the highest priority when, in referring to the energy problem, he declared that: "With the exception of preventing war, this is the greatest challenge our country will face during our lifetimes."<sup>45</sup> Carter then proceeded to outline a comprehensive energy program which had two basic objectives: 1) to reduce the annual growth rate of U.S. energy consumption from the current 4-5% to 2% by 1985, primarily by reducing petroleum consumption 10% from current levels; and 2) to encourage development of alternative energy resources to reduce oil imports to 6 million barrels per day by 1985--the 1976 level was 7 million barrels per day. The success of the program relied on engineering an extensive shift from oil to coal and, to a lesser extent, to other energy resources. Although the measure was a significant departure from past administrations in emphasizing the role which conservation of resources could play, it employed similar tactics by

relying largely on tax measures to raise energy prices and create the incentive for decreases in consumption.<sup>46</sup>

The Congressional response to the Carter plan was less than enthusiastic, however, and it failed to act on the plan during 1977. The only energy-related measures which did gain passage through Congress in this year were the Emergency Natural Gas Act, which was a response to a serious gas shortage in some parts of the country during the Winter, and a bill which established a cabinet level Department of Energy, thereby abolishing the Federal Energy Administration, the Federal Power Commission, and the Energy Research and Development Agency. The act centralized energy powers which had been housed in five other agencies in one Department, a considerable achievement given the failure of past efforts to accomplish this task, but it left pricing decisions on oil, natural gas, and electricity up to the Federal Energy Regulatory Commission, an independent body which was within DOE but whose members were subject to Senate approval.<sup>47</sup> This was a major disappointment for the Carter administration, which had hoped to be able to exert more direct control over pricing decisions than this independent commission would allow.

It was not until October of 1978 that Congress finally completed action on Carter's 1977 energy program, and it produced an energy bill which was drastically different from that which Carter had originally proposed. But although his proposals had been considerably watered down--particularly most of their compulsory aspects--in signing it into law Carter said: "We have declared to ourselves and the world

our intent to control our use of energy and thereby to control our own destiny as a nation."<sup>48</sup>

In its essential aspects, however, the bill appeared to be much less. The bill contained major provisions on natural gas, which would allow the price of newly discovered gas to rise 10% annually until 1985, when all price controls would be lifted; on coal conversion, which required new industrial and utility plants to use coal or an alternative to oil or natural gas, while existing plants using oil or gas would have to switch to other fuels by 1990; on utility rates, it only required state utility agencies to consider energy-saving methods of rate setting; on conservation, it required utilities to provide consumers with energy conservation information; and on tax credits, which would be given to homeowners and businesses for installing energy saving devices in their establishments.<sup>49</sup> Thus, much of the effectiveness of the bill depended more on voluntary compliance than on compulsion--a compliance which, once again, was to be induced primarily by financial incentives.

More importantly, the bill really said nothing of consequence about oil or gasoline, whose recent accelerated consumption had led the upsurge in energy demand, thus it promised to have little affect on how the country produced and consumed increasing amounts of energy. In addition, after only a few months it was clear that the bill's major provisions concerning the de-regulation of natural gas was not having the desired effect of increasing the incentives for expanded exploration and production. Drilling for oil and natural gas

actually fell off 15% from the previous year's level in the first five months after the bill's passage and approached a two year low.<sup>50</sup> At the same time, by February of 1979, five states had challenged the constitutionality of the federal government's expanded price control powers under the Energy Act, a move which will indefinitely delay its implementation and, ultimately, undercut the timely achievement of its goals.<sup>51</sup>

The inadequacy of the government's responses to the energy issue and the continued precariousness of the country's energy situation was clearly illustrated by events in early 1979, when a cutoff of oil from Iran and another round of OPEC price increases brought the U.S. to the brink of crisis once again. The combined effects of the Iranian oil shutdown--which represented 5% of U.S. supplies--and the OPEC price increases of about 45% over the first three months of 1979 produced a situation which was at once compared to the oil embargo of 1973.<sup>52</sup> According to Energy Secretary Schlesinger, for example, these developments represented a situation "prospectively more serious than the Arab oil embargo of 1973-1974", while a study by the Department of the Treasury referred to these events as "a threat to national security greater now than at any time in the past."<sup>53</sup>

As in the past, the atmosphere of impending crisis produced an immediate reaction. Carter's response represented another major energy address to the nation in April in which he now labeled petroleum as the fundamental cause of the energy crisis--a crisis which was, he suggested as real today as it was two years ago. In his message Carter announced



two major new energy proposals which focused on improving the domestic oil situation, one of which was essentially administrative and another which involved the cooperation of Congress. The first involved a reversal of his position on the decontrol of domestic oil prices, which would now undergo a phased decontrol, because, according to Carter: "Federal government price controls now hold down our own production and encourage waste and increasing dependence on foreign oil."<sup>54</sup>

In adopting the "conservation-by-price" approach, Carter now argued that the lifting of controls was the best way to both encourage energy conservation and increase exploration and production. Further, to allay fears that too much excess profits would accrue to the oil companies under decontrol, he asked Congress to enact a windfall profits tax which would go towards supporting an Energy Security Fund, whose resources would be utilized for research in exploration and alternative fuels. The ultimate effectiveness of these proposals has been seriously undermined and questioned since, however, and by mid 1979 Congress had not yet acted on the windfall tax proposal. By all indications, when it does act, the tax it imposes promises to be much less burdensome to the oil companies than Carter had hoped.<sup>55</sup>

In the middle of 1979, then, most of the U.S. government's energy policies were still in a state of disarray comparable to their state in 1973-1974 during the oil embargo. The progression of policy responses which had been enacted at the federal level since 1973 were most notable for their inability to effectively address the decaying

domestic energy situation. The goal of increased energy independence was more remote in mid 1979 than it had been at any time since 1973, and the most recent responses to the current "energy crunch" hold little promise for bringing the country closer to this goal in the foreseeable future.

### Population

Introduction. Although the United States is itself one of the four most populous countries in the world, the population issue has gained considerably more attention as a "world" rather than a "domestic" issue in the period under consideration in this chapter. The initial awareness of population as an "issue" grew out of the U.S. government's concerns with the international effects of increased world population in the 1960s, particularly its consequences for the developmental prospects of the so-called developing countries of the world. Since the mid 1960s, the perception of population growth as an important obstacle to the developing countries' developmental progress has played a key role in the conduct of U.S. foreign aid programs, as the U.S. has become the largest supporter of population-related programs in the world.

In this same period, the government's awareness of population as a domestic issue has undergone significant fluctuations. Beginning in the late 1960s there was increased attention focused on the role of the population factor in U.S. development, a period which peaked in 1970 when the federal government's role was formally institutionalized

in the Family Planning and Population Research Act. Since that time, however, interest in the population issue has receded considerably and little additionally has been done.

There has been a marked contrast between the government's perception of the population issue at the national and international levels. While the belief that world population needs to be controlled has informed much of its international population-related activities, in the domestic sphere population growth has not been a chief concern. Indeed, the growing awareness of the domestic ramifications of population occurred at a time when the U.S. population growth rate was in the throes of a twenty-five year decline. From 1.7% in 1950-1955, the growth rate fell to 1.25% in 1960-1970, and has been around 0.8% for most of the 1970s. Over this same period, the crude birth rate fell from 25 per thousand to 14.8 per thousand in 1976, the lowest rate in history.<sup>56</sup> Given this context, domestic population-related policy has been concerned with the equalization of conditions of reproduction and of creating equal access to contraceptive materials and information, and has thus concentrated on a target population of poor and minorities who have been deprived of these rights.

Population policy prior to 1970. Prior to the 1960s the federal government had discounted any active role in the population area. Perhaps the clearest articulation of this position may be found in President Eisenhower's response to the findings of the Draper Report in 1959. This report had involved an extensive review of the effectiveness of the U.S.'s Military Assistance Program and, in this regard,

had been one of the first studies at this level to officially conclude that population growth was a major obstacle to development in the less-developed countries (LDCs) of the world. Consequently, in its recommendations it had urged that the U.S. increase its activities in the population area. Eisenhower specifically rebutted this claim, however, when he said:

I cannot imagine anything more emphatically a subject that is not a proper political or governmental activity. . . The government will not... . as long as I am here, have a positive political doctrine in its program that has to do with the problem of birth control. That's not our business.<sup>57</sup>

Subsequently, however, the government's position was altered by the publication of two influential studies by the National Academy of Sciences in the 1960s. The first, entitled The Growth of World Population, investigated the world-wide dimensions of the issue and concluded by calling for active government participation to curb population growth. This led to an immediate response from Congress which amended the 1963 Foreign Aid bill and, for the first time, allowed the government to use foreign assistance funds for "research into the problem of population growth."<sup>58</sup>

A second study followed in 1965, entitled The Growth of US Population, and, among its recommendations, urged that family planning be made an integral part of domestic public medical programs. Once again a quick response was forthcoming with the creation of a Deputy Assistant Secretary for Science and Population, in the Department of Health, Education, and Welfare.<sup>59</sup>

At the same time the first clear official indications of a growing governmental awareness appeared as well, although they were focused primarily on the international aspects of the population issue. In his 1965 State of the Union Message, for example, President Johnson said "I will seek new ways to use our knowledge to help deal with the explosion in world population and the growing scarcity in world resources."; and later in the year he gave increased urgency to the issue when he declared ". . . we must face forthrightly the multiplying problems of our multiplying populations and seek the answers to this most profound challenge to the future of all the world."<sup>60</sup>

Over the next few years the U.S.'s international population activities were institutionalized with the creation of a population office within the Agency for International Development (AID) in 1966, and the installation of a Special Assistant to the Secretary of State for Population Matters in 1967. By 1967, through amendments to the Foreign Aid Bill, AID was able to fund programs directly relating to population growth as well as research, and over the 1965-1969 period, assistance to family planning programs grew from \$2.1 million to \$45.4 million. As the 1960s came to a close, the United States was the world's principle source of family planning funding and was assisting up to 31 countries in this area.<sup>61</sup>

Along with the increased international population-related activities of the U.S. came a growing awareness of the national aspects of this issue as well. Although no formal institutions yet existed, by 1966 both the Surgeon General and the Secretary of Health, Education,

and Welfare had legitimized the role of public health services in using resources for population related problems and the provision of family planning services.<sup>62</sup> Further impetus was given to an expanded role when, in a special message to Congress on health and education, President Johnson singled out family planning as one of the four critical health problems requiring serious attention:

We have a growing concern to foster the integrity of the family, and the opportunity for each child. It is essential that all families have access to information and services that will allow freedom to choose the number and spacing of children within the dictates of individual conscience.<sup>63</sup>

These developments initiated a period in which there was to be an increased effort on the part of the government which focused on expanding access to family planning as the major thrust of its population-related policies. The policy was to almost exclusively interpret the issue as a question of equalization of rights and, as a part of the Johnson administration's social programs, such as the War on Poverty, the push for the extension of family planning gained widespread support from a diversity of interest groups. As such, the increased role of the federal government in the family planning area gained support as a proper step in the preventive health field, as a part of poverty and welfare programs, as an improvement in health rights and women's rights, to extend sexual freedom, and to reduce overpopulation.<sup>64</sup>

Thus in the mid 1960s federally supported family planning programs were initiated as a part of the War on Poverty and services were made available through Title V of the Social Security Act and the



Office of Economic Opportunity (OEO). By 1967 family planning received its first special legislative emphasis with the passage of the Child Health Act, which required 6% of Maternal and Child Health Funds under HEW to be earmarked for family planning.

In 1968 Johnson followed up on his administration's newly expressed concern by forming a Commission on Population and Family Planning. Among its major recommendations, this Commission urged the rapid extension of federal family planning programs and research support, and proposed the creation of another commission to more thoroughly study the population issue.<sup>65</sup> Once again the government quickly responded, and by the late 1960s the commitment in the population area was formalized in a Center for Population Research, which was established to coordinate research at the national level, and a National Center for Family Planning Services, to coordinate funding of family planning at the national level. Presiding over both of them was a Deputy Assistant Secretary for Population Affairs, in the Department of Health, Education, and Welfare.

Over the last half of the 1960s government expenditures on family planning support increased significantly as well. The funding, which consisted largely of grants to state health agencies, had grown from a level of \$13.4 million in 1965 to \$70 million in 1970; and by 1969, some type of organized family planning activity was offered in roughly 47% of all U.S. counties, where approximately three quarters of all low-income women deemed in need of family planning services resided.<sup>66</sup>

The culmination of the government's concern in the population area in the 1960s came with President Nixon's 1969 Message on Population to the Congress. His position--as it was presented in the speech--gave the distinct impression that a national population policy was in the offing, as he placed the population issue squarely among the domestic and international priorities of his administration. In referring to the population situation he declared:

If the present rate of growth continues, the third hundred million persons will be added in roughly a thirty year period. This means that by the year 2000, or shortly thereafter, there will be more than 300 million Americans. . .

This growth will produce serious challenges for our society. I believe that many of our present social problems may be related to the fact that we have had only fifty years in which to accomodate the second hundred million Americans. . . One of the most serious challenges to human destiny in the last third of this<sub>67</sub> century will be the growth of population...

Nixon had made a clear departure from the past in focusing greater concern on the population growth rate within the U.S., but when it came to proposing specific programmatic responses, his suggestions largely involved an expansion of existing programs.

It is my view that no American woman should be denied access to family planning assistance because of her economic condition. I believe, therefore, that we should establish as a national goal the provision of adequate family planning services within the next five years<sub>68</sub> to all those who want them but can't afford them.

Indeed, as future events would reveal, Nixon's position on an increased federal role in the population area was not as it appeared to be at all. For it would be his administration which would initiate a drastic

pullback in the federal commitment in this area only two years later.

Population policy: 1970-1976. Over the next five years population drew progressively less attention as a national issue as a number of factors combined to push it out of the public eye. Chief among these was the continued decline in the population growth rate which removed much of the public pressure for a national population policy. In addition other issues, such as energy and inflation, as well as fallout from the Vietnam War and Watergate, took a decided precedence over population, which rapidly became a minor issue for the Nixon and Ford administrations. In their efforts to deal with the more pressing issues like inflation, by reducing federal expenditures and cutting costs, the social policy areas were attractive targets for these administrations, and programs such as federal support of family planning suffered considerable cutbacks in this period.

The Congress had reacted quickly to Nixon's call for action in the population area and, according to many observers, went much further in establishing a federal commitment in the population area than Nixon had wished. The Congressional actions consisted of the creation of a Commission on Population Growth and the American Future in 1970, whose purpose was to study all of the important aspects of the population issues. In particular, it was to focus on the impact of population changes on government services, the economy, the country's resources and environment, and to make recommendations on the federal role in this area.

This action was followed shortly by the passage of the Family Planning and Population Research Act of 1970, which represented the first coordinated government move into domestic population programs. The Act's purpose was ". . . to promote public health and welfare by expanding, improving, and better coordinating the family planning services and population research activities of the federal government." In keeping with the past position, the rationale for the Act was closely tied to the concept of equal opportunity and access to family planning information. Family planning was now recognized as a universal human right which was necessary to assure that each child was a wanted child. As the Act expressed it:

. . . it is the policy of Congress to foster the integrity of the family and the opportunity for each child; to guarantee the right of the family to freely determine the number and spacing of its children within the dictates of its individual conscience; to extend family planning services, on a voluntary basis, to all who desire such services.<sup>69</sup>

The impact of the Act was almost immediate as family planning services increased drastically over the next two years. Between 1969-1972, for example, family planning programs grew at an annual rate of 32%, with the number of health agencies providing these services increasing from 1,800 to 3,250, while the number of clients served grew by over 200% to 2.6 million.<sup>70</sup> Over this same period federal appropriations for family planning clinics increased from \$33 million to \$137 million, and according to a five year plan submitted by HEW to Congress this trend was expected to continue, reaching an approximate level of \$392-434 million by 1975.<sup>71</sup>

At the height of the expansion in family planning services in 1972 the report of the Commission on Population Growth and the American Future was released, and it was expected that it would give continued impetus to the expanding federal role in the population area. The findings of the Commission represented a clear departure from traditional American views of population growth when they suggested that population growth should no longer be uncritically accepted as a benefit, and further, that no substantial benefits would result from continued population growth.<sup>72</sup> The Report stopped short of recommending a zero population growth policy, however, and instead focused on eliminating the social and legal obstacles to free choice which would enhance the freedom of individuals to have the number of children they wanted.<sup>73</sup> While not directly alluded to, it was presumed that stabilization of the population growth rate would be a welcome consequence of maximizing individual choice in this manner.<sup>74</sup>

The Nixon administration's response to the Population Commission's Report was, however, less than enthusiastic, as its interest in the population issue had substantially receded since the creation of the Commission. Nixon, in his personal remarks on the Commission's Report, ignored most of the important recommendations and focused on publicly rebuking the Commission's support for liberalization of abortion and expansion of teenage sex education. In indicating his disagreement with the Report on these points Nixon stated that he preferred to rely on ". . . the good sense of the American people who would make sound judgments conducive both to public interest and personal family



goals."<sup>75</sup>

Nixon's response to the Commission's Report signaled a drastic shift in the federal government's philosophy in the population area and initiated an attempted pullback of federal support which was to push the family planning program into eclipse for the next four years. The administration's strategy derived from its "new federalism" policy which it attempted to implement in 1973. The primary goal of this policy was to decentralize the administration of a number of federal social welfare programs, including family planning, among the states and, thereby, significantly cut federal administrative and programmatic costs.

In the area of family planning, for example, the successful implementation of this strategy would effectively eliminate the open-ended funding of family planning projects by the federal government which had been established under the 1970 Family Planning Act. The administration made its position clear when it resisted renewal of the Family Planning Act in 1973, and, in the Congressional testimony of its representatives, indicated how the family planning program would be administered in the future:

The individual state (Medicare) plans will determine the goals and priorities for family planning services within each of the states, and the aggregate of these goals and priorities will constitute the national program.<sup>76</sup>

As a result of the administration's resistance, the Family Planning Act was renewed for only one year and project grants were frozen at the 1972 level, a situation which was to obtain for the next four



years. In addition, in July of 1973 the administration's reorganization of the Department of Health, Education, and Welfare dismantled the National Center for Family Planning Services and Maternal and Child Health Services, the two national administrative organs for family planning services. These administrative moves effectively reversed the national family planning program approach instituted under the Family Planning Act of 1970. Future increases in family planning funding would now occur largely through Title IV-A and Title XIX of the Social Security Act--thus they would primarily be determined by the magnitude of state administered social service programs.<sup>77</sup>

The actions of the Nixon administration served to diminish the federal resources available for family planning and clearly undermined the government's ability to provide support and overall direction to what had been a national family planning effort. This strategy was essentially continued under the Ford administration when its vetoes of authorization and appropriation bills for HEW in both 1974 and 1975 kept federal funding for family planning under the 1970 Act frozen.

In these years the increased availability of funds for family planning relied almost totally on the ability of states to devise and implement policies in this area. Family planning had never been a high priority among the states, however, and even during the years of the huge federal initiatives the states had clearly failed to provide any of their own impetus. In fiscal year 1972, for example, the states had been the source of only 3% of all funds appropriated for family planning, and by fiscal year 1976 this proportion was to rise

to only 10% of the total.<sup>78</sup> More importantly, the reduction of the federal role was to open the family planning area to the variabilities which other welfare programs had been subject to, where levels of funding and eligibility requirements would differ significantly from state to state, and equal access would become an unenforceable standard.

The change in the national family planning strategy had the expected results, as over the next four years the growth in family planning programs regressed. The growth rate fell to 18% in 1973, 6% in 1974, and 16% in 1975, as the states failed to pick up the slack and proved incapable of expanding services adequately. The five year growth projections of the HEW were not nearly achieved as federal funds actually expended on family planning fell by 14% between 1973 and 1975.<sup>79</sup>

By the middle of the 1970s, then, the expectations for a national population policy, which had been occasioned by the 1969 Nixon speech and the creation of the Commission on Population Growth, had not been fulfilled. The U.S. policy continued to be confined to the provision of family planning services to a narrowly defined client population, heavily representative of the poor in society. In 1975, for example, of the 3.8 million women being served by family planning services in the U.S., fully 86% had low or marginal incomes below 200% of the federal poverty index.<sup>80</sup> Even by these narrow standards, however, the family planning program was not a great success as most informed opinion had estimated that nearly 12 million women

were in need of family planning services in the U.S. in 1975.

The U.S. still had no domestic policy which related to population growth, although some have suggested that the targeting of specific client groups for family planning services implied unspoken growth goals.<sup>81</sup> By most accounts, however, the U.S. had no growth goals; as one international study of population policies concluded:

Despite these activities. . . the United States has no explicit policy for curbing U.S. population growth. The stated objective of its assistance for family planning within the United States is to enable parents to achieve their own preferences in family size.<sup>82</sup>

It appeared that the little concern which had arisen over the population growth rate had been defused by the declining birth rate which, excluding immigration, had fallen by one-third between 1970-1975 alone. The birth rate was the lowest in history in 1974, and, at its level of 14.8 per thousand, would terminate the net increase of population in seventy years. As a result, by the mid 1970s greater attention was being directed at other aspects of the population issue which would become more important in the future. Immigration has, for example, become more important as a factor of yearly population increase as the birth rate has progressively declined. According to one study, between 1969-1975 immigration as a proportion of annual population growth increased from 18.2% to 25.2% of total annual growth, making it a major factor in population growth which has not been adequately addressed.<sup>83</sup>

In addition, population distribution has drawn increased attention as an important aspect of the population issue in the future.

The role of distribution gained its strongest support in the report of the National Commission for the Observance of World Population Year, which was created in 1975 to instill a greater awareness and understanding of the problem of population growth in the U.S. In its final report this Commission suggested that population distribution, not size, would be the most important aspect of the population situation in the U.S.'s future. They pointed to the fact that 71% of the population resided in metropolitan areas in 1970, a level which would grow to 85% by the year 2000, and called for the creation of a high level national unit to coordinate efforts in the population area to deal with these prospective developments.<sup>84</sup>

While the U.S. government's concern with the domestic population situation was undergoing this period of fluctuating interest and involvement, its population activities in the international sphere were more stable and consistent with past policy. The most important constant in this area was the maintenance of a perspective which saw "excessive growth" as the primary aspect of the international population situation. The U.S. position in this area, which was to be frequently reaffirmed in international forums throughout the 1970s, was concisely presented in a 1970 speech by the U.S. Ambassador to the United Nations when he stated: "The future pace of development will be determined as much by the ability of countries to reduce the present alarming rates of population growth as by any other factor."<sup>85</sup>

In the early 1970s the funding of population-related programs became a more prominent function of U.S. economic aid, with funding

for this purpose increasing from \$75 million to \$125 million between 1970 and 1973. In addition, as part of an AID reorganization in 1972, a Bureau of Population and Humanitarian Assistance was created with the express purpose of giving ". . . problems of exploding population growth and birth control the highest priority."<sup>86</sup> Although funding for population programs was cutback by around 15% in 1974-1975--as part of a general reduction in foreign aid--the U.S. continued to lead the world in the funding of population activities, and, over the 1965-1975 period, the U.S. accounted for nearly 69% of all international assistance in this area.<sup>87</sup>

Population policy: 1976 to the present. In recent years, although public awareness of the population issue has continued to fade, the U.S. government has renewed its financial commitment to the support of family planning services at the national levels, under the provisions of the 1970 Family Planning Act. In August of 1977 President Carter signed a one year extension of major health programs which included \$208.5 million for the population area in fiscal year 1978. This amount represented a 19% increase in project grant funding for family planning over the 1976 and 1977 levels. A year later in October of 1978, Congress passed a four year extension of the Family Planning Act which authorized expenditures of \$1.07 billion for family planning services over the 1978-1981 period, with provisions for funds for family planning to grow to \$264.5 million in 1981, twice the 1977 level.<sup>88</sup>

In other recent action the House of Representatives created a

Select Committee on Population in September of 1977. Its purpose was to study the causes of changing population conditions in the United States and the world, and to study approaches to population planning which emphasized the prevention of pregnancy. After a year and a half of sporadic hearings, however, the Committee's life was quietly terminated by Congress in April of 1979. The hearings had covered the same ground which had been explored more thoroughly by previous population commissions and its final recommendations reflected this fact. In its final report the Committee expressed a deep concern with the state of population awareness in the country and the relative neglect of population research, two areas which had been the subject of concern for all of the previous government-sponsored population commissions.<sup>89</sup>

Over the past three years the U.S. government's international population activities have also been pursued with a renewed vigor. After the cutbacks of 1974-1975, appropriations for population planning in the Foreign Economic Aid Program have rebounded and progressively increased, reaching a level of \$225 million for fiscal year 1979, more than double the 1975 level (see Table 22). World population growth remains a primary focus of the U.S.'s foreign aid programs, and, in the eyes of the current administration, it clearly remains a critical world problem. In his recent testimony before the House Foreign Affairs Committee, for example, Secretary of State Cyrus Vance left no doubt that population growth still remained a world problem when he stated: "Population continues to outpace food production in many nations. In



TABLE 22  
 US SUPPORT FOR FOREIGN POPULATION PLANNING AND PROGRAMS, 1966-79  
 (in millions of US dollars)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979*
	3.9	4.4	34.8	45.4	74.6	95.9	123.3	125.6	112.4	110.0	125.0	125.0	167.0	225.0

SOURCE: Population Reference Bureau, World Population Growth and Response. Washington, D.C.: 1976, and Congressional Quarterly Almanac, 1977-1978

\*amounts for 1977-1979 are appropriation levels.

the time that it has taken me to share these thoughts with you this afternoon, world population has increased about 4,000. . ."<sup>90</sup>

In summary, the most important aspect of the U.S. government's policy response to the population issue has been the sharp contrast between the domestic and international perception of the issue. It does not appear that this perceptual conflict will substantially change in the foreseeable future. Population growth, at the domestic level, has never been an official concern of the government, and, while the renewed activities in the family planning area indicate a reassertion of the federal role in this area, there is little indication that government supported activity will extend beyond the narrowly defined concept of family planning services as an individual right which must be dispensed equally.<sup>91</sup>

### Food

Background: agricultural policy in the 1960s. Like the population issue, the food issue has been primarily perceived as an external phenomenon by the United States' government. Food shortages or hunger, while they have at times been the focus of some public concern, have not been major domestic issues in the U.S. over the past decade. Although hunger has been recognized to exist within the U.S., much more effort and attention has been devoted to the world hunger problem and the establishment of the U.S. as a primary supplier of basic foodstuffs to the rest of the world.

The U.S. has long been one of the world's largest food producers

and over the past decade food has become perhaps the country's most important export commodity. The country's agricultural exports have grown considerably as, in the face of increased energy import costs and balance of trade difficulties, the government has encouraged export expansion in this area. In this time the domestic agricultural sector has responded more and more to the vagaries of the international market, and, as a consequence, the domestic food situation has been progressively influenced by the world food situation. Concomitantly, in the 1970s the ability of domestic agricultural policy to exert a determining influence over the behavior of the agricultural sector has been seriously undermined, which has presented the government with a domestic food situation that it has been increasingly unable to control.

Since World War II U.S. agricultural policy has had to deal with an agricultural sector whose chronic problem has been one of excess production. In this context the primary goal of the government's agricultural policies in this period has been to sustain and improve the farmer's income, a goal which has been persistently jeopardized by the sector's ability to produce far more than existing demand. The basic issue which has confronted agricultural policy then has been one of abundance, not scarcity, and thus most policies have been directed at holding production of certain basic commodities down as the primary means of achieving income stability for the farmer.<sup>92</sup>

These policies have been directed at an agricultural sector which has undergone substantial change in the postwar period, the most important being a drastic increase in the sector's productive capacity.

The growth in productive capacity has been achieved despite a considerable reduction in the size of the agricultural sector. The number of farms fell by 50% between 1950 and 1971, while in roughly the same period total output grew by 52%, output per acre increased 61%, output per unit of labor increased 257%, and cropland harvested decreased 10%.<sup>93</sup> These developments were the product of a massive commercial transformation which saw nonfarm produced machinery, equipment, and power increasingly substituted for human labor, a process resulting in a decline in farm employment from 9.9 million to 4.5 million between 1950 and 1970.

This period also saw a significant change in the character of the agricultural sector as well, as land ownership became more concentrated and output and commercial sales became dominated by the large, commercial farms. By the mid 1970s, for example, only 17% of all farms accounted for 70% of all farm output and 63% of net realized income, illustrating a trend which has accelerated over the past two decades. In 1977, for instance, 70% of all farms had sales of less than \$20,000, a level considered to be the minimum to remain commercially solvent, which accounted for only 11% of all sales, down from a 50% share in 1960. On the other hand, 6% of farms had sales of \$100,000 or more, accounting for 53% of all receipts, up from a 17% share in 1960.<sup>94</sup>

In the face of these developments in the agricultural sector, in the postwar period the government has employed a variety of means to achieve what have, at times, been the contradictory goals of its agricultural policy. As President Johnson once concisely stated, these

have traditionally been to ". . . maintain and improve farm income, . . . and to use our food abundance to raise the standard of living at both home and around the world."<sup>95</sup>

During the 1960s, the government employed a combination of supply controls through production restrictions, direct income transfers to farmers, and a government provided market of last resort (the Commodity Credit Corporation) to support farm commodity prices in implementing its agricultural policies. In this period, for example, land diversion was a frequent tool of policy utilized to hold down production of certain commodities. Through the facilities of a Soil Bank, coupled with financial incentives, an average of 50 million acres a year was withheld from production in the 1961-1972 period, an amount equivalent to about one-seventh of all cropland at that time. Overall, with the increased capital intensity of agriculture, and the government's land diversion programs, total land use declined by 40% in the 1955-1970 period. Despite this decline, however, the government's programs to sustain farm income in the 1960s were among the most costly that it administered. The increases in productive capacity persistently exceeded the government's ability to control production at levels which were adequate to sustain farmer's income. Thus, over the 1956-1970 period, the government spent an average of \$3.1 billion annually for farm price support programs and related direct payments to farmers.<sup>96</sup>

In the postwar period a number of food-related programs also developed as an adjunct to farm programs, originating as supplementary

methods for facilitating the aims of agricultural policy. Among the domestically oriented programs were the Commodity Distribution Program, the National School Lunch and other child nutrition programs, and the Food Stamp Program. While it was clear that these programs served to distribute foodstuffs to economically deprived individuals, it was equally clear that they also provided additional outlets for agricultural production under government subsidy, and thus strengthened the agricultural economy.<sup>97</sup>

The Food Stamp Program, which was initiated on an experimental basis in 1961 and then expanded into a permanent program in 1964, was the primary program directed at the incidence of hunger in the United States during the 1960s. Its primary purpose, however, was not to eliminate hunger, but rather was to improve the purchasing power of needy families through distribution of stamps which allowed them to increase their consumption of staple food products and, thereby, reduce the surplus of staples which the agricultural sector chronically produced. As a hunger program, the Food Stamp Program was clearly not a great success in the 1960s. Although federal expenditures on the program increased from \$13 million to \$229 million during 1962-1969, the program reached only about 3.2 million people, while the estimates of the number of poor in the U.S. at this time were around 30 million.<sup>98</sup>

In contrast to the domestic programs, the development of the U.S. international food programs and activities was a much more significant part of the government's overall agricultural policy objectives.



The major component of the government's international policy was Public Law 480 (PL 480) which was first inaugurated in 1954, and, over its first decade of operation, had served largely to dispose of agricultural surpluses via cash transactions and direct food aid. According to the text of the bill, PL 480 was "An act to increase consumption of United States agricultural commodities in foreign countries, to improve the foreign relations of the United States, and for other purposes."<sup>99</sup> Most prominent among these other purposes were ". . . to develop and expand export markets for U.S. products . . . and the disposition of agricultural surpluses."<sup>100</sup> This program quickly became a major avenue for the disposal of U.S. agricultural surpluses. In its first five years alone it dispersed over \$5 billion worth of American grain, and, over its first decade of existence, agricultural shipments under PL 480 averaged 23% of total annual agricultural exports.<sup>101</sup>

By the mid 1960s, however, as world food conditions perceptibly worsened, the Johnson administration initiated measures to alter the purposes and conduct of the PL 480 program. These moves arose out of a growing awareness on the part of some Johnson administration officials that the program could have important diplomatic as well as economic goals--it could now not only serve as a means of maintaining farmer's income, but could also become an important means to solve the growing problem of world hunger. This new concern with the world hunger problem was a direct outgrowth of the U.S. government's increased attention to the world population situation, which was occurring at the

same time. In his message to the Congress on world hunger in 1966, in which he requested modifications in the PL 480 program, Johnson clearly linked the two issues together:

A balance between agricultural productivity and population is necessary to prevent the shadow of hunger from becoming the nightmare of famine . . .

The new legislation, amending PL 480, . . . recognizes for the first time, as a matter of U.S. policy, the world population explosion's relationship to the world food crisis, providing that the new food-for-freedom programs shall make available resources to promote voluntary activities in other countries dealing with the problem of population growth and family planning.<sup>102</sup>

Subsequently, PL 480 was renamed Food for Peace and amended to shift the focus of the program from disposal of U.S. agricultural surpluses to the furthering of economic development in the less-developed nations. Over the remainder of the 1960s, however, this shift in emphasis in the program did not produce any dramatic results. The value of commodity donations under the program did not significantly increase, and, with the decline in domestic agricultural surpluses in the late 1960s, the expenditures on the program were progressively reduced in the last half of the decade (see Table 23).<sup>103</sup>

Even with these progressive cutbacks, however, the effort and expenditures devoted to the world food problem in the 1960s had far outdistanced comparable activities in the domestic sphere. During the decade, the costs of the PL 480 program had exceeded \$13.9 billion, while the cost of the federal government's three domestic food programs had totaled about \$5.8 billion (see Table 23). The U.S. government's activities in the food area had followed a pattern almost identical to

TABLE 23

U.S. GOVERNMENT EXPENDITURES ON DOMESTIC AND INTERNATIONAL  
FOOD PROGRAMS, 1968-1977

Year	Food Stamps*	Commodity Distribution@	Public Law 480*
1968	.17	147	1.50
1969	.23	250	1.20
1970	1.10	275	1.20
1971	1.70	261	1.20
1972	2.00	225	1.30
1973	2.20	152	1.10
1974	3.50	87	0.77
1975	4.60	11	-
1976	4.70	8	0.84
1977	5.40	-	1.20

SOURCES: U.S. Department of Agriculture, National Food Situation, June 1977; Congressional Quarterly Almanac, 1977; OECD, Review of Agricultural Policies, 1977. Paris: OECD, 1978; and Willard W. Cochrane and Mary E. Ryan, American Farm Policy, 1948-1973. Minneapolis, MN: University of Minnesota Press, 1976.

\*in US billion dollars.

@in US million dollars.

its activities in the population area in this period, and, although there was clearly a growing awareness of a domestic hunger problem in the U.S. in the late 1960s, governmental policy in this area continued to see world hunger as the most pressing issue.

Agricultural and food-related policy: 1970-1976. The 1970s were to bring significant changes in the federal government's strategy for achieving its agricultural goals. These changes were in direct response to the fluctuations in the world food situation and would see the fortunes of U.S. agriculture increasingly tied to developments in the international market, as the role of agricultural exports was vastly expanded to combat the country's growing trade difficulties.

In the first years of the 1970s domestic agricultural policy remained essentially unchanged. Under the 1970 Agricultural Act acreage set asides continued to be the primary production control measure, with nearly 62 million acres diverted from use in 1972, while government payments to producers reached an average of \$3.8 billion annually in 1970-1972.<sup>104</sup> This "traditional" approach underwent a fundamental change in 1973, however, when the Nixon administration began to push for increased agricultural exports as a means of cutting the domestic budget costs of farm programs. This export emphasis was in direct response to the changes in the world food situation, which had seen the demand for food and the incidence of food scarcity significantly increase. With these recent world developments, the Nixon administration had recognized an opportunity to improve the country's trade balance, reduce government expenditures on agricultural

programs, and accomplish a significant increase in farm income.<sup>105</sup>

The export performance of U.S. agriculture almost immediately reflected the influence of this new strategy. Without its impetus the value of U.S. agricultural commodity exports had grown from \$7.8 billion to \$12.9 billion in 1971-1973, by 1975, however, the value of these exports had tripled to \$23 billion, accounting for 20% of total export earnings. During 1971-1976 the average annual export volume of U.S. agricultural products was one and one-half times greater than the annual average for the 1960s, with average annual export earnings reflecting a nearly three-fold increase over the annual average a decade earlier.<sup>106</sup> In this period the U.S.'s role in world food markets greatly expanded and U.S. agriculture dominated the world market in some of the basic foodstuffs. In 1973, for example, the U.S. accounted for 44% of the world's wheat and flour exports, in corn it supplied 70% of the total, and in soybeans 86%.<sup>107</sup>

The initial successes of the export strategy relied heavily on the conditions of world scarcity in basic food crops in 1973-1974, which had driven up the demand for U.S. agricultural exports. The 1973 Agriculture and Consumer Protection Act, which was passed at the height of the newest incidence of world food "crisis", exhibited the new approach when it introduced the concepts of deficiency payments and target prices for the major commodities, which would now be set at or near world levels. The new Act separated income support from price support for the first time, and allotted deficiency payments to producers only if average market prices fell below target prices. But

the "support" aspects of the Act were to be virtually non-operational for the next three years, as high world demand kept prices at or above target levels, thus eliminating the need for subsidies or acreage set asides. Thus, over the 1973-1975 period, the cost-cutting aspects of the new strategy were a clear success with expenditures falling by \$3.3 billion in just two years.<sup>108</sup>

The implementation of the export strategy also had a number of important drawbacks as well, which were primarily reflected in the deterioration of the domestic food situation in this same period. The growth in exports had substantially increased the agricultural sector's dependence on the world market, particularly with regards to basic food crops. In 1973, for example, exports accounted for nearly three-quarters of all farm sales in wheat, almost one-half of the total in soybeans, and about one-third of the sales in corn. By 1975, grains and soybeans accounted for 73% of all agricultural exports, with exports in this year providing the outlet for 100 million acres--30% of all cropland harvested in the U.S. in that year.<sup>109</sup>

As a consequence, the boom in world prices for these food products, which had fueled their export growth, also began to exercise a more determinant influence over domestic food prices as well. Domestic food prices rapidly accelerated in this period, peaking at a 20.1% rise in 1973, and averaged an annual increase of 9.6% for the 1971-1975 period--nearly three times the rate of the previous five year period (see Table 21). Increased food prices had become a major contributor to the growing problem of inflation by the mid 1970s, a situation



directly attributable to the growth of food exports. As one administration analysis characterized it, by this time: "American farmers are now increasingly dependent on volatile world markets, while both producers and consumers are more vulnerable to wide price fluctuations and renewed inflationary pressure."<sup>110</sup>

By most accounts, the frequent wide swings in prices of basic commodities and the overall progressive increase in food prices had a significant affect on the quality and quantity of the average American's diet in this period; as one noted authority expressed it:

Although the index of food consumption per person on a price weighted basis has risen over a long period of time, the amount of food energy consumed per person (presented in terms of calories) has declined.<sup>111</sup>

There were a number of indications that such was the case. In 1973, for example, the per capita index of food consumption declined by 2% from the previous year, the first year such a drop had occurred since 1965 and the largest decline since 1951. After recovering for a 1% increase in 1974, this index fell again in 1975 to its lowest level since 1968. A primary cause of this decline was a 4.3% drop in per capita consumption of animal products in 1973, which contributed to the largest drop in pounds of food consumed per capita in over a decade.<sup>112</sup>

These domestic food price developments most seriously undermined the diet of the approximately 26 million poor in the country in these years. A 1974 study for the Senate Select Committee on Nutrition and Human Needs found that rising food prices had produced a "statistically

significant decline" in the population's per capita consumption of protein and many essential vitamins and minerals, and further, that chicken and beef were disappearing from poor people's diets.<sup>113</sup>

This deterioration in the domestic food situation was reflected in the rapid expansion in the number of participants and costs of the government's two primary food programs. Although the Nixon administration had at one point called for the "end to hunger in America itself for all time", in the early 1970s much of its effort in this area was devoted to attempts to cutback the costs of food programs. The Democrat controlled Congress refused to accede to Nixon's wishes, however, and in 1970-1971 the Food Stamp Program was expanded and the eligibility requirements liberalized. Under the new amendments to the 1964 Act, the goals of the program were expanded to include assuring low income people a "minimally nutritious diet", while the maximum authorized costs of the program were tripled to \$1.75 billion. Subsequently, participation in the program grew from 10.5 million to 15.5 million in the 1971-1975 period, and the costs of the program ballooned from about \$1.4 billion to \$5 billion.<sup>114</sup> According to most assessments, this was an expansion which was almost solely attributable to the affects of the rising food costs in these years, and while substantial, it was still quite clear that the existing programs were not reaching a large portion of the country's poor and hungry population.<sup>115</sup>

The fate of the domestic food programs was, however, much better than that which befell the government's primary international food program under PL 480. The PL 480 program continued to experience a

sustained period of contraction, which had begun in the late 1960s at about the same time that the program had been renamed Food for Peace. In the early 1970s the volume of food aid distributed under the program continued to shrink, from 11 million tons in 1970 to only 3.3 million in 1973, as commercial markets absorbed the commodity surpluses which had previously gone out under this program. One indication of this trend was an increase in the value of U.S. commercial food exports from \$1.7 billion to \$6.8 billion in 1972-1975--in the same period aid-financed food exports remained at a level of \$1.1 billion. Overall, the funding for the PL 480 program fell persistently in the first half of the 1970s, which, allowing for inflation, resulted in major financial cutbacks in the program.<sup>116</sup>

Agricultural and food related policy: 1977 to the present. In recent years the developments in the world's food situation have continued to exercise a predominant influence over the character of the U.S. food and agricultural situation. As the world's food situation has progressively improved over the last three years, domestic agricultural policy has reverted to its pre-1973 form, when price supports and subsidies constituted the bulk of policy activity. Meanwhile, persistent food price increases and a continued expansion of agricultural exports have remained as vestiges of the export promotion strategy.

The domestic agricultural sector has experienced very good crop years recently, and both the 1977 and 1978 grain harvests reached record levels. Concomitantly, the value of agricultural exports has achieved record levels as well, reaching \$27.3 billion in 1978 and

forecast to approach \$30 billion for 1979. Agricultural exports now account for 21% of all U.S. exports and exports now account for one out of every four dollars earned by U.S. farmers.<sup>117</sup>

Despite the persistence of bountiful harvests and growing exports, however, the chronic problem of "overproduction" has returned to undercut farm income in tandem with continued food price increases, which remain a major contributor to the accelerating domestic inflation rate. The most recent agricultural policy measure enacted has been the 1977 Food and Agricultural Act, which basically extended the provisions of the 1973 legislation for another four years.<sup>118</sup> Under this Act, however, with the sequence of good crop years for both U.S. and world agriculture, deficiency payments and income support payments have returned to levels at or beyond the highest achieved in the early 1970s--they totaled \$6.6 billion in 1978--as the fall-off in world demand has had a direct affect on the U.S. situation. In addition, after being virtually inactive in 1974-1977, the set aside provisions of the 1977 Act were employed by the Carter administration when it called for significant reductions in acreage planted to wheat and feed grains for the 1978 growing season, leading to an 18 million acre reduction in plantings, the largest since 1973.<sup>119</sup>

This return to the high cost agricultural programs of the early 1970s has also been accompanied by continued significant increases in domestic food prices which, even in the face of record crops, exceeded the overall growth in the consumer price index in 1977-1978 (see Table 21). Food price increases, along with energy costs, have been

major factors in the increased rate of inflation in recent years, accelerating from a 0.6% rise in 1976 to 11.8% in 1978. The forecasts for 1979 projected a continuation of this trend with estimates that food prices would rise another 10%. This rate was quickly exceeded, however, as retail food prices rose at an annual rate of 17.7% for the first quarter of 1979.<sup>120</sup>

In the wake of these developments, the federal government's domestic food programs have continued to expand, while in the international sphere, the PL 480 program has rebounded somewhat after a number of years of cutbacks. The Food Stamp Program is now the primary domestic food program and its expansion has continued in recent years despite repeated efforts to control the program's expansion and costs. The most recent effort in this area was contained in the 1977 Agricultural Act, which once again revised eligibility requirements and put a ceiling on the costs of the program--costs which had, essentially, been open-ended. The revised eligibility requirements lowered income levels for eligible recipients to at or below the poverty level (\$5,850 for a family of four), and were expected to eliminate about 3 million persons from the program, whose enrollment was now expected to reach 18.5 million persons. Although the program was still clearly not reaching all who needed aid, the control of program costs was a priority of the new modifications as, for the first time, the 1977 Act placed a ceiling on the allowable expenditures for the program for the next four fiscal years.<sup>121</sup>

In the international sphere, after a period of relative neglect,



the government has taken some recent steps to revitalize the PL 480 program and deal more effectively with the problem of world hunger. The 1977 Agricultural Act renewed the PL 480 program for another four years and revised the provisions of the program to increase the amount of aid which could be distributed under Title II, in an effort to give greater emphasis to the aid aspects of the program. The program's budget was \$1.2 billion for 1977, up 45% from 1976.<sup>122</sup> In addition, the Act also gave specific encouragement to the President to negotiate the creation of an international emergency food reserve, something which the U.S. had previously been hesitant to participate in without controlling. By 1979 the Carter administration had introduced legislation which would authorize establishment and management of an international emergency wheat reserve, and, in his 1979 State of the Union message, Carter announced the creation of a Presidential Commission on World Hunger whose task was to recommend "realistic solutions" to this problem to the U.S. and other countries. In his message, Carter called the establishment of such a reserve an essential step in "the protection of our international food aid program."<sup>123</sup>

But while these efforts do indicate a renewed interest in the problem of world hunger by the current administration, they do not involve any significant changes in the fundamental aspects of the U.S.'s agricultural and food-related policies. As in the past, the efforts directed at the alleviation of hunger in the U.S. and the world remain subsidiary to the goal of maintaining the economic viability of the agricultural sector. These goals have conflicted in the



past and such would appear to be the case in the future. Indeed, over the past five years the pursuit of the latter goal has led to a serious deterioration in the domestic food situation and made the availability of a nutritionally adequate diet for all Americans much more of a hope than an actuality.

## C H A P T E R      V I

### CONCLUSION: THE STATUS OF "WORLD" ISSUES-- THE LIMITS OF THE GLOBAL PERSPECTIVE

#### Introduction

We now turn to a comparison of the major findings which the preceding country-by-country analysis has produced, and to an overall evaluation of the suitability of the evidence provided by this comparison for addressing the questions which were posed at the outset of this study. These concluding remarks will focus on the central topics and questions which were suggested in the initial chapter.<sup>1</sup> First the results of the comparative analysis will be presented and evaluated in the light of our concern with what these results may tell us about the acceptance and relevance of the "world crisis" perspective, which was outlined in the first chapter. Then, based upon these results, we will suggest some conclusions on what our analysis enables us to say about the fundamental nature of our three "world" issues, after comparing their ecological with their political perceptions. In addition we will make some evaluation of the comparative policy approach which was employed in this study, with particular regard to its appropriateness in exploring the dimensions of the three issues which were the subject of this study (see the Appendix).

### The Global Perspective at the Nation-State Level

In comparing the manner in which the four governments handled the food, energy, and population issues we often observed clear and important differences among their perceptions and definitions of the issues, while, at the same time, noting that there were also striking similarities in the character of their policy responses to the issues--although the goals of these policies were at times quite contradictory. The issue which exhibited the most significant similarities was clearly the energy issue. Despite the four countries developmental and ideological differences, the energy issue was a crucial domestic issue for them all. The energy issue had manifested itself in a similar guise, albeit with differing impacts, in all of these countries, primarily in the form of increased energy costs and shortages in energy supplies. Our analysis indicates that its recognition as a crucial issue appeared to be most attributable to its status as an issue which was closely tied to the developmental chances and aspirations of each country. Growth in energy consumption was universally perceived to be a sine qua non for economic growth, particularly in Brazil, the United States, and Yugoslavia, where the industrial growth model dominated. In these cases, where the industrial sector was the leading edge in overall economic growth and where its strategic sectors were crucially dependent on petroleum and natural gas, a reduction in energy availability and the drastic increases in energy costs had clear, immediate, and unacceptable economic ramifications. Even in Tanzania, where a rural

agricultural economy persists, the dependence of certain critical sectors of the economy on petroleum and its products has magnified the affects of recent world energy developments and made the energy issue an important governmental concern. Only the current government's conscious de-emphasis on economic growth as the leading developmental priority has ameliorated the energy crisis' affects, by making energy shortages less disasterous than in the other three cases.

Interestingly, these common experiences and perceptions of the energy issue have produced differing policy responses which have, however, had broadly similar goals: retention of an adequate energy supply and provision for sufficient resources for presumed future increases in consumption. While our analysis indicated that each country's response to the energy issue has been tempered by the extent of its own energy resources, its capacity to effectively deal with the issue was also circumscribed by other priority issues, such as unemployment and inflation. In our view, however, it is most significant that all of the policy responses have primarily emphasized the need to increase or sustain the supply of so-called "essential" non-renewable energy resources (e.g. oil, coal, and nuclear--as yet still non-renewable), for it indicates that the energy issue is still being treated essentially as a serious but no more than passing crisis.<sup>2</sup> Although in some instances (Brazil, Tanzania, and Yugoslavia) there is also an emphasis on the utilization of renewable energy resources (hydropower, wood, and alcohol), due both to the physical lack of other energy resources and conscious decisions, this does not indicate

a fundamentally different understanding of the nature of the energy issue. This is because the motivation for these choices has largely been to increase energy self-reliance and to secure greater control over one's own energy situation, rather than for their essential characteristics as renewable resources which take into account the ecological consequences of energy resource utilization and fossil fuel depletion.

Indeed, the energy policies observed in this study have largely ignored the crux of the world crisis perspective which argues that the energy and environmental crises are closely connected and, that increases in current energy consumption levels are unrealistic, given the state of the world's energy resources. The clearest evidence of this tendency is that conservation, a tactic which at least begins to acknowledge the possible limiting aspects of the world's energy situation, remains only a minor aspect of the energy policies we presented. This appears to be the case because such a strategy would ultimately involve fundamental alterations in current energy usage patterns, and offers the potential for requiring a great deal more social sacrifice than is currently the case; for, in the end, it could lead to serious challenges to the assumptions which underlay the growth-oriented models of development adopted by these states. In the energy policy area it appears that the marked similarities in policy responses are attributable to the overriding growth imperatives of these states' developmental models, which have assumed precedence over ideological, cultural, and developmental factors. From their vantage

point, the energy issue is seen as a "crisis" primarily because of its presumed threat to what are held to be essentially uncompromisable growth goals, rather than for its ecological consequences.

Thus the observations on the energy issue drawn from our comparison reveal that the current manifestations of world energy difficulties are being treated largely as symptoms of a serious but temporary shortage in supply which requires difficult adjustments. They have clearly not illustrated that the energy "crisis" is being viewed as an indication of the progressive and unalterable depletion of the world's finite energy resources which should signal revaluation of assumptions about growth and the values which support it. The beggar-thy-neighbor energy policies of the four countries we discussed illustrate that this is the case, as each state tries to retain or expand its share of world energy consumption. Their actions indicate a refusal to acknowledge the relevance of the "ecological limits" argument to their situations, while their policies have failed to face the issues raised by this argument concerning appropriateness of energy usage, the environmental costs of energy resource usage, and the potential exhaustion of the world's fossil fuel resources. Dealing with these issues would involve considerable revisions in the assumptions which underlie their policies and question the faulty logic of their position that all states can retain their share of world energy consumption, or even expand it. More importantly, it could open to public debate the issue of whether growth priorities should continue to supersede environmental values in the energy area.



In contrast to the energy issue where its domestic impact is conspicuous, the food/hunger issue has been viewed primarily as an external phenomenon in the countries discussed here. The exception is the case of Tanzania where, again due to its rural agricultural context, the food issue has been an important domestic issue for nearly two decades. Despite the continued incidence of hunger and malnutrition in the other three countries, food/hunger issues have not been officially recognized as crucial domestic issues in the 1970s. Rather, when food/hunger issues have been the subject of attention they have been perceived to have their primary impact on other areas of the world. Indeed, our preceding analysis has revealed that in all four cases the international food situation has exercised a significant influence over domestic agricultural policies--policies which have, in important respects, contributed to the deterioration of each individual country's own domestic food situation.

Our observations indicate that the primary development which influenced the domestic food situation in all of these countries in this period was the increase in the commercialization of the agricultural sector and the consequent emphasis on and expansion in the cultivation of crops for export markets--a development which proved to be to the detriment of domestic food-producing capabilities. In three of our cases (Brazil, the United States, and Yugoslavia) these trends were closely tied to the emphasis on industrial development as the leading sector in the country's overall development and the resultant neglect of the agricultural sector's development which this produced.

But in all cases the commercialization of the agricultural sector was observed and in all it had a detrimental affect on domestic food-producing capabilities--manifested by increased food prices and shortages of key food products for domestic consumption. The impacts in Brazil and Yugoslavia, for example, included significant alterations in nutritional levels, and in the United States as well it contributed to drastic increases in food prices which severely hindered the ability of citizens to acquire a nutritionally adequate diet.

Our observations of food-related policies in these countries also revealed that the economic imperatives of dealing in the international market to acquire commodities and foreign exchange served as the primary motivations for the increased emphasis on the export of highly valued agricultural commodities, many of which were food products. In all cases this export orientation often served as the major factor influencing domestic agricultural policy and the development of the agricultural sector, thereby supplanting what was often publicly proclaimed as the priority of meeting domestic food requirements. This was the case even in Tanzania where the government was fully conscious of the domestic consequences of the export orientation, yet allowed it to continue for lack of both the commitment and ability to control it.

Interestingly, in the cases of Brazil, the United States, and Yugoslavia, the world food shortages of the early 1970s--which precipitated much of the recent concern with a world food "crisis"--were important in influencing these governments' decisions to more fully exploit the export potential of their respective agricultural sectors.

Their perception of the world food "crisis" as largely an external phenomenon served as an important justification for the export thrust in their agricultural policies, although it was quite clear that the policy goals were aimed more at exploiting the economic opportunities presented by world food scarcities, than they were at solving the world's food problems. That such a strategy served to exacerbate the domestic food situations of these countries was ironic, yet, from all indications, it appeared to be an acceptable if generally officially ignored consequence of these policies.

As we saw with the energy issue, the economic developmental priorities of each government appeared to be the most important factor influencing their approach to the food/hunger issue. The exigencies of sustaining economic growth, which placed the agricultural sector in a secondary position in all but Tanzania, and the necessity of forging a role in the international economy which this task entailed, exercised a dominant influence over the formulation of agricultural policies in these countries. Even in the agricultural state of Tanzania during the 1970s, domestic agricultural policy was increasingly subject to the vagaries of the international market. In blunt economic terms, it was deemed to be more valuable for each state to respond to the opportunities offered by the deteriorating world food situation, where the economic benefits to be reaped were considerable; for as long as the "crisis" was perceived to be someone else's problem it could more easily be approached in this manner.

Unlike the energy issue, in regards to the food/hunger issue

there was a radical deviation between the domestic and international perceptions of this issue's import. In seeking to understand why there was such a significant difference between the two realms it appears to be another example, like the energy area, where economic factors have overruled the political in affecting issue perception. To admit that a domestic food crisis exists, or even that a significant incidence of hunger and malnutrition persists, is viewed as being tantamount to acknowledging a fundamental failing in the ruling government's ability to meet one of its citizen's basic human needs, especially if such difficulties cannot be blamed on essentially uncontrollable international factors. This is especially the case in states such as Brazil, the United States, and Yugoslavia, where there is a sufficient total supply of foodstuffs generally available. In this context the food/hunger issue may potentially become more of a political than an economic or technical issue. Such a process could open the door to the questioning of certain fundamental aspects of the socioeconomic system. If, for example, hunger and malnutrition are primarily viewed as consequences of being economically deprived or underdeveloped, then the presumption is that further economic development is the best means to alleviate or eliminate its existence--this is the position underlying the United States', Brazil's, and Yugoslavia's international posture. If, on the other hand, this problem is acknowledged to persist in the so-called developed states where food is plentiful, then it leads to more probing questions about its ultimate causes and remedies, which may be more political in nature.

The former position has clearly been the strategy of the three industrialized and semi-industrialized states we have discussed. Their responses to the world's food problems have not been directed at the possible political causes of hunger because they have not faced these possibilities in their own countries. Rather they have treated the issue as essentially an economic and technical problem which primarily requires an expansion in world food production, an approach which rewards the food producers with increased economic benefits.

In addressing the question of what our analysis of policy has revealed about the relevance of the world crisis perspective in the food/hunger area, we once again encounter a situation where essentially different systems of valuation have been employed to interpret the same situation. The global perspective, for example, attempts to treat food as a basic human need which is, or should not be, treated as just another commodity, commensurable with other less essential goods or values. Our comparison of policy has shown, however, that in all cases, with the possible exception of Tanzania in some instances, the policy responses have treated food as a commodity which is subject to and ruled by the logic of supply and demand. Consequently, as a commodity its demand and price are primarily dependent upon its scarcity, not upon its abundance or life-sustaining qualities. The global crisis perspective has also attempted to insert the consideration of natural limits into its analysis of the food/hunger issue, as it does with the energy issue, and thus attempts to cast this issue in a different context. If limits are a relevant consideration than the potential for



and consequences of producing more food must be more fully examined, and the question of a more equitable distribution of the world's current food supply becomes a more pressing issue. If, on the other hand, the economic and technical definition of the issue continues to predominate, as it has in the policies we surveyed, than the political issues raised by the possible ecological limits to increased production will not be addressed and challenges to the existing world food distributional patterns will be deflected. The policy responses have been informed by an understanding of the food/hunger issue which sees recent world food scarcities as temporary occurrences which can be remedied by the application of economic and technical solutions, while the global perspective argues that such solutions will be circumscribed by the more significant ecological limitations of the earth which are currently being manifested.

Of the three issues discussed here the analysis of the population issue perhaps best reveals the weaknesses of the global level perspective--in its own terms--when applied to specific country-level comparative contexts. Although there were some striking differences in the respective government's perception and understanding of the population issue in the domestic sphere, the policy responses were all bound together by their studied failure to recognize any relevance for the population growth crisis to their own situations. Overall national population growth figures and demographic characteristics were of limited utility in understanding the fundamental nature of each country's population situation and its policy. Excessive population growth was



clearly not a major national concern in any of the cases discussed in this study.

A country's level of economic development emerged as the most important factor affecting each government's perception of their population situation and what were judged to be the major parameters of the population issue, at least in the manner in which it was defined by each respective government. In Brazil and Tanzania, for example, the overriding concern with an expanding economy and a healthy internal market precipitated the government's initial interest in the population area. Given these economic priorities, the population's age-structure and its spatial distribution were the main focuses of the government's population-related concerns, since they could have potentially serious consequences for the country's future developmental chances. At the same time, aside from these concerns, given their national context, these governments also viewed additional population in an essentially positive light. Increased population was viewed as having a number of increased economic benefits for the country, which led to government advocacy, either actively or passively, of increases in the population growth rate. It is quite clear that such a policy cannot be fully understood with reference only to the information which a national level demographic analysis provides. When added population is valued primarily as a positive economic force, the population issue is understood utilizing a logic which is almost totally contradictory to that which is employed by population analysts at the global level.

In addition, the official perceptions of the domestic population

situations which obtained in the United States and Yugoslavia, and the policy responses which ensued, also challenged the applicability of the global level purview in another manner. For example, the internal demographic variabilities which were observed in Yugoslavia were indispensable to fully understanding its population situation, especially when it was revealed that the demographic variations generally flowed along ethnic lines, a factor which overshadowed all others. Thus the ethnic factor was the determining factor shaping the Yugoslav government's policy stance, something for which the global level analysis has not taken account.

In the United States, which has one of the world's largest populations using a disproportionate share of the world's resources, there is no official concern with the population growth rate. Rather, its population-related policies, both domestic and international, are informed by an understanding of the population issue which attributes high reproduction rates primarily to an individual's poverty and ignorance. Consequently, the United States government has carried out a national policy in the population area which has chiefly been directed at a narrow clientel of the poor and uneducated, or those perceived to be most seriously in need of information on population and reproductive matters. The United States' international population activities are pervaded by a similar logic. As one country among the four discussed here who has carried on significant international population-related activities, it has aimed its efforts primarily at the poor and uneducated of the world system as well.

Given these wide differences in perception and understanding of their individual population situations, it is most surprising that all four governments have employed a similar logic in their policy approach to the domestic population situation. Despite the unique ideological and cultural aspects of each country, the population issue and the debate on population policies has been largely confined to the arena of individual rights. This is clearly why population "control" has not become a publicly proclaimed purpose of any of the population-related policies surveyed in this study. The flirtation with population control, in all cases, appears to directly challenge one of the most closely guarded of individual rights, the right to choose to freely procreate or not. Therefore, family planning--the form which all of the population-related policies has taken in these four cases--has been publicly presented as essentially a health measure which, it is hoped, will both improve the conditions of reproduction and, at least in the case of the United States, lead to a reduction in the reproduction ratios of the target population.

While it certainly must be acknowledged that the meaning and parameters of the concept of individual "rights" varies considerably among the four countries, this observation is significant because it reveals their uniform refusal to accept the pertinence of the global level population crisis perspective to their policy considerations. This constitutes a direct refutation of the idea that world demographic conditions, not individual rights, should be the primary factor influencing the formulation of individual state's population policies.

Once again our comparison of population-related policies reveals that, in attempting to assess the relevancy of the global crisis perspective to these individual cases, we are encountering a clash between the different systems of valuation which are being applied to the issue at the national and global level. The power of the global level of analysis, for example, hinges on viewing population and food as two closely interconnected issues, a position which has not been taken by any of the four governments we observed. Based on its acceptance of the ecological limits of the earth, the global perspective concludes that population control is one of the most effective means to both combat world hunger and reduce the demands on the world's resources. This position accepts the ecological "fact" that there are physical limits to how much population the earth can support. Furthermore, based on the recent ecological signs, there are clear and serious environmental consequences involved in producing greater amounts of food under the existing dominant technological methods. Thus, this challenges the view that the world has the capacity to produce much more food and support a greater population largely through technological advances, arguing that this view ignores the environmental fallout of an expansion in the technologically intensive methods of production which would be required--the effects of which are already being felt throughout the world (e.g. water shortages, soil depletion, pollution, desertification, and energy shortages).

The significant point once again is the global level analysis' attempt to insert the concept of natural limits as a legitimate and

necessary consideration into the political debate on the population issue. Indeed, the reputability of the world population "crisis" argument hinges on the acceptance of the physical limits concept, especially since its global level of analysis attempts to subsume many of the world's important national demographic variations into its level of analysis, or, at the most, differentiates between the developed and underdeveloped states of the world only along gross economic dimensions. From the global ecologically based perspective each added individual is seen as increasing the demand on the world's already strained resources, an essentially negative evaluation which suggests that individual decisions on procreation must now begin to take account of their global ecological consequences.

In our comparison, however, we have observed the common failure of these individual governments to accept the concept of ecological limits as a valid and relevant factor influencing their population-related policies. The fact that the issue is still cast in terms of individual rights indicates that the questions raised by the global perspective are being largely ignored, for it relegates decisions on population size to a level which, by definition, removes from the debate questions of whether the "right to procreate" should be tempered by its global consequences. In contrast, at the nation-state level added population represented essentially different valuations from those implicit in the global perspective. In these cases added individuals represented needed labor power, economic potential, and increased national security--all positive outcomes which leave the

traditional benevolent assumptions about the consequences of individual choices on reproduction unchallenged. Thus the questions posed by the global population analysis, as those with energy and food, are not addressed, since once again they involve dealing with political issues which are apparently still viewed as too risky for most governments to openly contemplate.

### Summary

Up to this juncture then our comparison and evaluation has illustrated that what counts as relevant evidence from the global purview loses much of its purchase when reduced to the nation-state level. We have observed that essentially different, and often anti-thetical, priorities have ruled action in these areas at the national level, priorities which the global level perspective suggests ought to be supplanted, or at least reduced in importance. These findings now return us to the leading question of this study and to an assessment of how successful we have been in achieving the goals which were proposed at the outset.

May we now conclude that the energy, food, and population issues have not generally been treated as "crisis" issues in the four countries discussed here? Perhaps a qualified "yes" is the most appropriate response, for these issues have certainly not received the degree of attention which the proponents of the global crisis view have argued they require. Our position is qualified by a further more important question, however, which deals with the issue of whether the findings



presented in this study have served to discredit the utility of assuming a global perspective on these issues. This query requires a more detailed response because it addresses the critical questions of why the global crisis view has not had a greater affect on the policies discussed here, and how the global purview may be adapted to more directly inform political action.

The analysis presented thus far has revealed more about the limitations and lack of acceptance of the global crisis viewpoint, than it has about any fundamental questioning of its validity. To recapitulate, we have found that while all four states have experienced the physical manifestations of these crises to varying degrees, their perception, understanding, and response to them has been filtered through a number of national and international factors. The major factors have included their ideological, cultural, and, most importantly, developmental value systems which have exercised varying degrees of influence. In addition, policy responses in these three areas have been conditioned by the extent of natural resources, the level of industrialization, and each state's position in the international economy.

Given the purposes of this study, it is not necessary to speculate here on which factor has been most crucial, for their significance lies in the fact that all of these are factors which the global level perspective tends to minimize or leave entirely out of its analysis. As has been suggested earlier, the persuasiveness of the global perspective relies heavily on accepting that these issues are beyond,

or should be beyond parochial nation-state interests. On the occasions when the global view acknowledges the impediments presented by nation-state differences, it still argues that the character of individual nation-state behavior in these areas must fundamentally change, in view of the growing world-wide impact of their actions.

This study has presented considerable evidence to the contrary that such is still not the case.<sup>3</sup> But what has emerged could not be called conclusive proof that these issues are therefore not world "crises", rather it leads us to more probing questions concerning the nature of these issues and the political stakes which are at issue in the contest over which system of valuation will, or should, determine their resolution.

#### Some Leading Questions and Issues

Ultimately, the ecologically based world crisis perspective is suggesting that a new system of valuation, or, at the least, a fundamental revision of the current hierarchy of values, is necessary to resolve these issues. In varying manners the key question raised by the global crisis proponents is whether "growth"--and all of the assumptions concerning humankind's relationship to the earth which underlie this concept--should continue to be the paramount concern when determining how to resolve these issues. They suggest that it is perhaps time for the question of preserving continued growth to become secondary in the face of current world ecological imperatives--of which issues such as the three discussed here are serious manifestations.

The stakes are high, for to address these issues primarily in terms of their potential costs and benefits to continued growth ignores their more serious threats to the future survival of all humankind, whereby the irresponsibility of one endangers the future of all equally. As we have seen, in the four cases presented here this question has not been seriously addressed and, in the case of all but Tanzania, none of these governments have chosen to begin to deal with the political questions which would be posed by a no-growth or limited-growth scenario. Their approach to these issues in general continues to be informed by the retention of an essentially benevolent concept of growth and expansion, a concept which has been the primary motor of the industrial-developmental model which they have adopted.

This outcome suggests two alternative assessments of what our study has revealed about the world crisis view. One conclusion could be that the problem lies with the proponents of the global perspective who, it may be argued, have not convincingly presented their arguments on the ecological crisis. Thus, this argument may be discounted in its own terms for a number of various reasons.<sup>4</sup> The other conclusion, however, suggests that we have shown that the global perspective lacks purchase within the contemporary international context, largely because it fails to address itself adequately to the political implications of its position and to the political stakes which are or would be involved in its practical application. From this vantage point, there is a fundamental omission in the ecological critique of the current world situation which makes it largely irrelevant to the political

context where, ultimately, it must be implemented. We believe that it is evident that it is the latter assessment which is in order here.

The crux of the problem lies in the global perspective's overweening concern with the a priori question of the earth's and humankind's survival. In many instances this concern may quickly become translated into survival at any costs, leading to any number of extreme approaches to ensure the earth's survival.<sup>5</sup> This imperative lies at the base of the ecological perspective when it argues that we are endangering all of humankind if we continue to act in the same unquestioned exploitative manner toward earth and its resources as we have in the past. Presented with the current ecological conditions, one individual's or state's irresponsibility in this area endangers all, for it now requires that all begin to act in a more ecologically conscious manner. In other words, the terms by which individual and state behavior was previously judged have been altered and now must be evaluated in other terms.

The force of this position derives from the physical and biological evidence (e.g. pollution, resource exhaustion, water shortages) which overwhelmingly indicates that we have to change patterns of behavior (e.g. growth without considering its ecological costs).<sup>6</sup> Therefore, when this calculus is applied to the three issues which were the subject of this study we find that they are considered to be "world" issues primarily because they are manifestations of deteriorating world ecological conditions--for they represent their most serious threat in their ecological guise, not due to their political or social

consequences.

Since they are essentially different kinds of world issues, which immediately involve the future of life on the planet, they require a different type of valuation and approach, for they endanger our survival if we continue to deal with them only insofar as they endanger or contribute to continued growth. In ecological terms, the world consequences of continued population growth must take precedence over the individual right to reproduce at will; the environmental costs of producing more food through technologically and energy intensive methods must now be considered; as must the increased consequences of growing production and consumption of fossil fuels. The limits of our capacity to grow under the old patterns are called into question as the ecological costs of growth may now outweigh its social and economic benefits. Under these new circumstances, the old system of compromise and trade-offs is sorely limited or no longer applicable, since in ecological terms you cannot quantify the costs of energy resource depletion or the environmental costs of increased food production.<sup>7</sup> One cannot speak of isolated issues either, for within the holistic purview of ecology these issues cannot be independently isolated and resolved. They are all interdependent and an individual solution to one may exacerbate another if all are not considered uniformly. Thus the growth cum survival question must now take precedence over all other considerations.<sup>8</sup>

But what is left out of the global perspective as it is presented is crucial, for it becomes more than just a question of applying a



different language of evaluation to these issues. There must also be an equally pressing concern with the possible political implications and potential outcomes of this process. The paramount question should not just be one of survival, for that can become a morally vacuous debate, but of survival under what conditions. Unfortunately, this is a question which has not received sufficient attention from proponents of the global crisis view and, among those who have focused on this concern, there has been a general tendency to foresee the necessity for dire, non-democratic alternatives to current political systems.<sup>9</sup>

Therefore, it is not the relative accuracy of the global crisis position which is most importantly in question here, but rather its possible political implications which should be the focus of concern. Although there has been a relative dearth of materials in this area, in the early 1970s Peter Bachrach and Elihu Bergman, in their study of the political aspects of the United States' population policy, hinted at some of the political issues which the global ecological perspective had raised:

The ecologists could well be right in their predictions of ecological catastrophe for mankind in the foreseeable future unless fundamental socioeconomic and political changes are forthcoming. Certainly their predictions and supporting analysis cannot be discounted. They demand thorough and deep scrutiny. But in the course of the scrutinizing, fundamental and complex political issues--issues which they ignore or gloss over--must also be analyzed and evaluated. This is of utmost importance for it is not inconceivable that the political costs in terms of individual freedom required to reach a 'state of global equilibrium' is too high--even if ecological catastrophe is the alternative.<sup>10</sup>

Indeed, it may be argued that in their rush to propose a new



logic for conceiving of these "world" issues the global ecological perspective has largely overlooked the social and political costs of its application. They have concentrated on only one dimension of these multi-dimensional problems, and in suggesting that the ecological dimension be paramount, they have based their position primarily on the evidence presented in this realm. In doing so, however, they have undermined the efficacy of their position in two important respects. In the first place, by confining the debate to the ecological realm it has been relegated to an area where, despite its scientific aura, no definitive proof on the accuracy of its position is available concerning the actual boundaries of the earth's carrying capacity. The current argument is based largely upon the projection of existing trends of resource exploitation and utilization into the future; in truth, resource exhaustion is still more of a promise than a fact and thus it cannot be convincingly argued or proved. Moreover, by the time such "hard" evidence is available, it will, in many cases be too late to remedy the situation.

More importantly, by confining itself essentially to the ecological dimension, the global crisis perspective oftens appears to present itself in an apolitical position, or in one which takes a generally static view of the political realm. Presented in this fashion, this perspective fails to take sufficient account of the political and social factors which underlie the world ecological crisis. It does not, for example, explicitly address the ideological sources of the "unlimited growth" syndrome, nor the social institutions and practices

which sustain it.

Recently, a number of authors have argued that what is required in this area is a fuller consideration of the social and class nature of world issues such as those discussed here, both at the national and international level.<sup>11</sup> Some have suggested, for example, that the leading question here is whether the ecological crisis should be seen more crucially as a symptom of the bankruptcy of the Western capitalist industrial growth model of development, upon which the current world market system is based. From this viewpoint, these "crises" most importantly reveal the limits of individualistic values, especially when they are underlain by the central belief that humankind's relationship to earth is essentially one of exploitation and domination, thus viewing earth as only a support system for human beings.<sup>12</sup> Given the centrality of these beliefs, it follows that the most important source of the ecological crisis is the consequent manner in which populations of the advanced industrial societies have sought an individualistically oriented, materially based, self-actualization, primarily through the acquisition of commodities. In these terms, growth is only necessary in these high-consumption societies because commodities are viewed as the primary means of need satisfaction, and the dominant social structure is set up to satisfy needs in this manner. This analysis thus leads to the conclusion that the world ecological crisis is closely tied to the capitalist mode of production and social organization which is prevalent in advanced industrial societies who have, not surprisingly, contributed disproportionately to

the world's ecological problems (e.g. pollution, energy resource utilization, food consumption).<sup>13</sup>

In opening the way to a fuller consideration of the social and class nature of these "world" issues, this approach has also begun to explore some of the difficult political issues which the global crisis perspective has raised, but not sufficiently addressed. Such an approach, we would argue, must include a critical analysis of the benevolent connotations which are often attached to the language of the ecologists and environmentalists, especially when juxtaposed against their adversaries of the growth/industrialization position. More surely must be said concerning the inherent conservative and elitest bias of the global ecological perspective when concepts such as "limits to growth", "equilibrium", and "conservation" are unselfconsciously applied to national and international systems which are characterized by gross inequalities in wealth, resources, and resource utilization. At both the national and international level, more attention needs to be devoted to what is involved in turning the ecologists' "must" into "can be".<sup>14</sup>

At the international level, for example, based only upon the findings of the comparative analysis carried out above, it is clear that the implications of ecological concepts like "equilibrium" and "conservation" would be drastically different for those at the top and bottom of the world's wealth and resource ladders. Being satisfied with what one has will understandably be quite harder to accept if one is at the bottom of the ladder, especially if the existing distribution system

is considered to be inequitable in important respects. It should also be remembered that "conservation" may only mean the planned, efficient use of resources, rather than a change in the manner and system by which resources are utilized--thus it has real meaning only for those who currently have access to or already utilize that which is being conserved. At the international level, depending on who enforces it, "conservation" could serve only to perpetuate the existing international market system in which proportionately few benefit most. Thus it becomes irrelevant or dangerously threatening for many if its proponents do not explicitly address the political issues which it raises concerning the future distribution and sharing of scarce resources.<sup>15</sup> This approach, which emphasizes the political aspects of these world issues, serves to underline their class nature in world terms, and suggests that since the responsibility for the world's "crises" is not shared equally, one should not expect that all will willingly sacrifice equally.

At the national level as well, a more politically conscious approach raises questions about the possible political costs of implementing what are regularly viewed as technical solutions to our ecological problems. Once again, when blanket concepts like "conservation" are applied to national systems which exhibit serious social and political inequalities, they will surely involve different costs and benefits to individuals, depending largely upon their socioeconomic position. When we speak of limiting some rights as a necessary means for successfully dealing with the ecological crisis, in this kind of

socio-political context we must be clear about what "rights" will be limited, whether they are, or have been, equally shared, and if one should so willingly relinquish them in a political structure where, perhaps, they have never flourished.<sup>16</sup>

Therefore, from this viewpoint changes in social arrangements and modes of production become essential steps in successfully dealing with ecological issues, for they must deal directly with questions concerning the distribution of power and social amenities in any society, and with changes in the social and economic institutions which are as much the source of these problems as have been the behavior patterns of individuals.

In summary, we have suggested that what is sorely needed are concerted attempts to infuse ecological concepts and the global perspective which they comprise with political and social meaning. Their social and political implications must be more fully examined, so that the choices which they present are not viewed as limited technological ones, but ones which represent clear moral and political choices as well. Ultimately, we have argued that the chief weakness of the global crisis perspective has been its presentation as an essentially limiting framework which imposes strict limits on what have previously purportedly been free choices. Integral to this perspective has been a largely static view of the international political system and a similar view of human nature which sees the necessary changes in behavior patterns being imposed, rather than freely arrived at--two of the chief reasons why the authoritarian persuasion is the most popular



political alternatives envisioned for the future.

We would argue that the adoption of a global perspective on these and other "world" issues does not inevitably lead in this direction, where the concentration of ever greater decision-making power in fewer hands is necessary to make the regrettable but essential decisions to ensure our survival. While it may very well signal the limits of individualistic, self-oriented behavior in an increasingly finite world, the ecological perspective may also open the way to opportunities for more collectively oriented behavior as well, since one of the salient features of this perspective is the central focus which is directed at the interdependence of all parts. Therefore, although this may establish limits on humankind's future relationship with its environment, it does not necessarily follow that it must also impose limits on humankind's relationship with itself. There appears to be no compelling reason why it cannot open the door to a greater degree of bottom-up participation and decision-making, and thus to a more democratic and participatory alternative than has thus far been foreseen.

The concept of ecological "limits" has the potential to become a liberating rather than a confining political and social concept, for it may force us to at last deal directly with some of the seminal political issues which societies have historically faced. As one author has recently suggested in this vein, the ecological crisis has the potential to return politics to classical dimensions, by returning issues which have in the recent past been viewed essentially as technical and economic issues to the political realm where they belong.<sup>17</sup>



If the ecological perspective can be utilized to debunk the myths of the unquestioned benefits of unlimited growth and reveal its pathology, than its democratic potential may be realized. Indeed, there may be an opportunity in the oncoming conditions of scarcity to improve the conditions of life, if it enables us to more directly confront the enduring issues of liberty and equality in the political terms which their resolution requires. If the prospect of an expanding material pie in the future can no longer be employed to defray action on these issues, then this process can become one which involves the conscious participation of citizens who recognize the clear moral and political choices which the resolution of these issues will involve.

No one would suggest that it will make the resolution of these issues any easier, for it offers no indication of the direction in which the process will travel. But in presenting us with the question of societal and world survival, we are strongly suggesting that the ecological perspective does not have to address these issues in a manner which precludes or minimizes the political consequences of the choices involved. Rather, we have suggested that these issues must be addressed in a manner which places the conditions of humankind's survival on an equal footing with the question of survival itself.

## FOOTNOTES

### Chapter I

<sup>1</sup>This is still an aspect of even the most recent works in these areas. For example, see the newest "bestseller" in the energy area, Robert Stogaugh and Daniel Yergin, eds., Energy Future-Report of the Energy Project of the Harvard Business School (New York: Random House, 1979), especially Chapter 1.

<sup>2</sup>Of course not all of the works in these areas fit under this general categorization, but it is not unfair to say that a large proportion do--particularly those works which have gained some measure of public notoriety and which have had a marked affect on the public consciousness and perception of these issues. Examples of these include Stobaugh and Yergin, *Ibid.*; New York Times Staff, Give Us This Day: A Report on the World Food Crisis (New York: Arno Press, 1975); Lester Brown, By Bread Alone (New York: Praeger Publishers, 1975); also his Redefining National Security (Washington, D. C.: Worldwatch Institute, 1977); Paul Ehrlich, The Population Bomb (New York: Ballentine, 1968); and the first two of the Club of Rome's publications Donella Meadows et al., The Limits to Growth (New York: New American Library, 1972); and M. Mesarovic and Eduard Pestel, Mankind at the Turning Point (New York: E. P. Dutton, 1974).

<sup>3</sup>We would suggest that most authors do not carefully make the distinction between the terms international and global whereas, for the purposes of this work, such a distinction is crucial. We do not wish to be bound by an artificial conceptual assimilation of these two concepts such as seems to occur in much of the analyses. We believe that it is more useful to employ international when referring to the existing world "political" system, and global when referring to the world's "ecological" system. In the concluding chapter we attempt to illustrate the critical importance of this distinction in understanding the ideological presuppositions which many of the adherents to the "global" perspective make.

<sup>4</sup>Borgstrom has produced a number of major studies on the world's food and population situations. This statement is taken from The Food and People Dilemma (Duxbury, Mass.: Duxbury Press, 1973), p. 59.

<sup>5</sup>The Population Bomb, p. 176.

<sup>6</sup>By Bread Alone, pp. 248-249. In a later work Brown has expanded on this argument and suggested that the ecological threats manifested by the food, population, and energy situations are now greater than any military threats to national security, see Redefining National Security. A similar position is presented by the authors of Mankind at the Turning Point when they declare ". . . the scale and global character of the present crises differ from the nature and scale of most past crises", p. 9.

<sup>7</sup>See Lester B. Pearson, Partners in Development. Report of the Commission on International Development. (New York: Praeger Publishers, 1969).

<sup>8</sup>His comments were reported in the Boston Globe, 29 April 1977. Interestingly, the article described him as a "leading Western analyst of the problems of developing nations".

<sup>9</sup>The New York Times, 19 April 1977.

<sup>10</sup>Cooper's comments were reported in the Boston Globe, 1 November 1979.

<sup>11</sup>In addition, this does not even address the questionable validity of these ecological arguments when taken on their own terms. There are critically important disagreements among the "experts" in these fields over the validity and accuracy of many of the basic concepts which they employ in their analyses. See, for instance, Georg Borgstrom's discussion of how fuzzy the meaning of "overpopulation" becomes when it goes beyond the consideration of a simple person/land ratio, to include aspects such as quality of nutrition and quality of life. The Food and People Dilemma, pp. 24-25. In the energy area the major study of the Ford Foundation's Energy Policy Project, A Time to Choose (New York: Lippencott, 1974), devotes an extensive section to how significantly different "energy resource" estimates can be arrived at, depending on the definitions and nomenclature used and the source of the estimate. See Appendix D of the study. For a good general overview of this issue see Nick Eberstadt, "Myths of the Food Crisis," New York Review of Books, February 19, 1976, pp. 33-37, which is an overall critique of the inexactness of the terms used by many food and population "experts".

<sup>12</sup>Clear instances of works which resort to these kinds of appeals include, Georg Borgstrom, Focal Points (New York: Macmillan, 1973), part III; Herbert Marx, ed., The World Food Crisis (New York: H.W. Wilson, 1975), section VII; Brown, By Bread Alone, part V; and Mankind at the Turning Point, chapter 9.

<sup>13</sup>To cite just one instance, the sweeping generalizations made by Lester Brown in a study on food and population, done under the auspices of the Overseas Development Council, are typical of those made by the advocates of the "global Crisis" perspective:

"We know that most good land in the world is already under cultivation. We know that, with few exceptions, the most desirable irrigation sites have already been developed. We know that energy, and therefore fertilizer, will be more costly in the future than in the past. We know that in the more advanced countries, where yields are already high, further increases in production will be far more costly than those of the past." (By Bread Alone, p. 11)

There is very little attention, however, to what we don't know ecologically and, in particular, to what has been left out of this analysis in political terms--such as why "cost" (read profitability) is the determinant factor in his future projections.

<sup>14</sup>Popular examples of "pessimistic" appraisals include Robert Heilbroner, An Inquiry into the Human Prospect (New York: W.W. Norton, 1976); the two Club of Rome works which have been previously cited; Ehrlich, The Population Bomb; Ehrlich and Denis Pirages, Ark II: Social Responses to Environmental Imperatives (New York: Viking, 1974). The "optimist's" school is best represented by the works of Herman Kahn and the Hudson Institute, particularly The Next 200 Years (New York: William Morrow and Company, Inc., 1975). For an earlier example see Richard Meier, Science and Economic Development (Cambridge: Massachusetts Institute of Technology Press, 1966). For an example which deals specifically with the food situation see D. Gale Johnson, World Food Problems and Prospects (Washington, D.C.: American Enterprise Institute, 1975).

<sup>15</sup>For examples of this tendency see Heilbroner, *Ibid.*; William Ophuls, Ecology and the Politics of Scarcity (San Francisco: W.H. Freeman, 1977); and Garrett Hardin, Exploring New Ethics for Survival (New York: Viking, 1972).

<sup>16</sup>One has only to peruse the "new" bookshelf of any library currently to see how popular these "crises" topics have become in recent years. For a most recent example of the tendency to assign a central role to these issues in the world's future developmental prospects see, Organization for Economic Cooperation and Development (henceforth OECD), Interfutures: Facing the Future-Mastering the Probable and Managing the Unpredictable (Final Report of the Interfutures Project) (Paris: OECD, September 1979).

<sup>17</sup>A good outline of the argument which ties economic growth to increased energy consumption may be found in Gerald Foley, The Energy Question (London: Penguin Books, 1976), chapter 6. On the population question, an excellent critical analysis of this type of argument is presented in Susan George, How the Other Half Dies (Montclair, New Jersey, 1977), pp. 31-45.



<sup>18</sup>The classic study, which laid the theoretical groundwork for the use of ideological and institutional differences to classify nations along a "developmental" scale is Gabriel Almond and G. Bingham Powell, Comparative Politics: A Developmental Approach (Boston: Little, Brown and Company, 1966). For an application of this approach to the comparative public policy area see Peter Merkl, Modern Comparative Politics (New York: Holt, Rinehart and Company, 1970), chapters 7-8.

<sup>19</sup>It is quite possible that the "process" aspect of a policy's formulation will assume a more important role in some parts of the analysis than has been indicated for it here. While it is in fact quite difficult, and often wrongheaded, to try to separate the "process" aspect from the "content" aspect in any policy analysis, we only wish to make clear that our concern in this study is specifically with the policy "content", not with how it came to have that content--whether through interest group politics, one-party politics, or military edict. Our definition of "content" is borrowed from Austin Ranney and includes ". . . the set of objects the policy is intended to affect, the particular course of events desired, the particular line of action chosen, the particular declaration made, and the particular actions taken. . . ." Austin Ranney, ed., Political Science and Public Policy (Chicago: Markham Publishing, 1968), p. 8. We believe that the process/content issue has more relevance to the methodological implications of the policy analysis approach itself. See the Appendix: A Methodological Postscript.

<sup>20</sup>An illustrative example is the clear difference between the United States' national and international policy on the population issue, which was recently described in the following manner: ". . . the U.S., a leader in advocating world population growth stabilization and the largest funder of international family planning programs, still has no national population policy, and has no comprehensive plan for limiting its resource consumption." From a report by Zero Population Growth, reported in the Springfield Daily News 27 June 1977.

## Chapter II

<sup>1</sup>The Party has recently united with Zanzibar's Afro-Shirazi Party and been renamed Chama Cha Mapinduzi.

<sup>2</sup>There are presently 17 administrative regions, each of which may be divided into two or more districts.

<sup>3</sup>Contained in four volumes: Freedom and Unity (London: Oxford University Press, 1967); Freedom and Socialism (Dar es Salaam: Oxford University Press, 1968); Ujamaa: Essays on Socialism (London: Oxford University Press, 1968); and Freedom and Development (Dar es Salaam:

Oxford University Press, 1973).

<sup>4</sup>One of the better accounts of the early phase in Tanzania's development strategy from one who was very close to the situation may be found in Cranford Pratt, The Critical Phase in Tanzania 1945-1968 (London: Cambridge University Press, 1976), especially chapters 4-8.

<sup>5</sup>Indeed, under the precepts of African Socialism economic policies were tailored to meet social needs and goals. See David Feldman, "The Economics of Ideology: Some Problems of Achieving Rural Socialism in Tanzania," in Politics and Change in Developing Countries, ed. Colin Leys (London: Cambridge University Press, 1969), pp. 247-275.

<sup>6</sup>From the Second Five Year Plan for Economic and Social Development (1st July 1969-30th June 1974), volume 1 (Dar es Salaam: Government Printer, 1969), p. 26. For a fuller exposition see Nyerere, "Ujamaa: The Basis of African Socialism," in Freedom and Unity, pp. 162-171.

<sup>7</sup>Second Five Year Plan, Ibid., p. 1.

<sup>8</sup>The Sunday News (Dar es Salaam), 2 February 1967. The most complete presentation of the government's position is contained in Nyerere, Principles and Development: A Memorandum by the President of the United Republic of Tanzania and President of TANU, June 1966 (Dar es Salaam: Government Printer, 1967).

<sup>9</sup>The Wall Street Journal, 5 August 1977.

<sup>10</sup>Source is Africa Reports 22 (November-December 1977).

<sup>11</sup>According to World Bank Tables, 1977 (Baltimore: Johns Hopkins Press, 1977), Tanzania ranks 121st out of 145 countries in the world in per capita Gross National Product. It was also considered to be among the thirty-two nations "most seriously affected" by the world's oil and food situations in the judgment of the United Nations in August 1974. See United Nations, Food and Agricultural Organization, The State of Food and Agriculture, 1975 (Rome: UNFAO, 1976).

<sup>12</sup>From Ministry of Tourism and Information, Tanzania Today-A Portrait of the United Republic (Nairobi: University Press of Africa, 1968), p. 113.

<sup>13</sup>Tanzania's food policies also relate to a number of other food products such as livestock, fish, and dairy products, but these remain subsidiary in most of the populations diets to these major grains. For example, according to the United Nations, Yearbook of International Trade Statistics, 1976 (Rome: 1977), between 1971-1975 only livestock production increased in Tanzania, by 12%; fish production remained the same while the production of milk and meat both declined, by 8% and 6%



respectively, p. 137. Thus the discussion of "food policy" will deal with policies directed at the staple crops, which have been of most concern to the government.

<sup>14</sup>Reproduced in Freedom and Unity, p. 183. This was truly a massive undertaking, for before independence Tanzania's rural area consisted primarily of small scattered settlements where the main method of cultivation was the slash and burn shifting cultivation, most suitable to subsistence farming. Villages were an exceptional occurrence. For a more detailed discussion of these points see Helge Kjekshus, "The Tanzanian Villagization Policy: Implementation Lessons and Ecological Dimensions," Canadian Journal of African Studies 11(1977):269-282.

<sup>15</sup>Freedom and Unity, p. 236.

<sup>16</sup>Tanganyika Five Year Plan for Economic and Social Development (1 July 1964-30 June 1969), volume 1 (Dar es Salaam: Government Printer, 1964), p. 21. For an account of the early problems with the settlement program see Hugh W. Stephans, The Political Transformation of Tanganyika: 1920-1967 (New York: Praeger Publishers, 1968).

<sup>17</sup>Currently, the agricultural sector is made up of private estates who produce primarily export crops, state farms, co-operatives, and small-scale peasant farmers who are mostly in villages. When referring to the government's food policy, most often we will be speaking of efforts directed at the small-scale farmer, unless otherwise indicated. For a fuller discussion see John Connell, "The Evolution of Tanzanian Rural Development," Journal of Tropical Geography 38(June 1974):7-18.

<sup>18</sup>See the Development Plan for Tanganyika, 1961-1962 to 1963-1964 (Dar es Salaam: Government Printer, 1961); and Tanganyika Five Year Plan. Expenditures on industry grew from 4% to 14%.

<sup>19</sup>See Pratt, The Critical Phase, who was an advisor to Nyerere during this period. He notes a clear failure of the government to effectively implement the first five year plan's agricultural policies and states ". . . the most important single factor which explains it (production increases) is the increasing effort put into agricultural production by thousands of individual peasants.", p. 176. See also Colin Leys, "The Analysis of Planning," in Politics and Change, ed. Colin Leys. He notes in regard to the first five year plan that ". . . within a year of the Plan's publication it was commonly felt that it was no longer relevant", p. 271.

<sup>20</sup>See, for example, Knud Erik Svendsen, ed., Self-Reliant Tanzania (Dar es Salaam: Tanzania Publishing House, 1969). He points out that while total agricultural marketed output increased by 7.4% annually between 1960/1962 and 1966, export crop production was significantly better. In this period production of cotton increased by 18% annually, coffee by 15%, cashew-nuts by 12%, and tobacco by 19%, p. 298. For the Figures see Tanzania Today, Appendix Six, p. 275.

<sup>21</sup>See Michael Lofchie, "Political and Economic Origins of African Hunger," Journal of Modern African Studies 13(December 1975): 551-568. He argues that during the 1965-1970 period, when food production was falling, export production grew about 4% annually for all Africa. A Similar assessment is contained in Ingrid Palmer, Food and the New Agricultural Techniques (Geneva: United Nations Research Institute for Social Development, 1972).

<sup>22</sup>Lofchie, Ibid. Also see Bank of Tanzania, Economic Bulletin (March 1972). The report on the 1971-1972 crop year states that all food crops suffered declines while all export crop production grew--the one exception was sisal, then in the throes of a ten year decline in world demand due to its replacement by synthetics.

<sup>23</sup>Based on data in United Nations, Yearbook of International Trade Statistics, 1976 (New York: United Nations, 1977).

<sup>24</sup>Second Five Year Plan, p. 133.

<sup>25</sup>See, for example, Kjekshus, "Tanzanian Villagization Policy," and Clyde R. Ingle, From Village to State in Tanzania (Ithaca: Cornell University Press, 1972). Both note that land shortages for food crop production, due to their replacement by cash crops, was recognized as a problem in Tanzania as early as 1947.

<sup>26</sup>Tanzania Today, p. 113.

<sup>27</sup>Leonard Berry and Robert Kates, "Views on Environmental Problems in East Africa," Africa Review 2(March 1973):299-314.

<sup>28</sup>Ibid., p. 309. It is also noteworthy that irrigation, although it has been recognized by the government as a "necessity" for stable crop production since the mid-sixties, is not a viable alternative at this time due to its cost. According to one source in 1977, only 1% of the total land area under cultivation was irrigated in any crop year. S. Nieuwolt, "The Influence of Rainfall on Rural Population Distribution in Tanzania," Journal of Tropical Geography 44(June 1977):43-56.

<sup>29</sup>For the text of the Declaration see Nyerere, Freedom and Socialism, pp. 231-250.

<sup>30</sup>Second Five Year Plan, p. 29.

<sup>31</sup>From a speech by Nyerere to the TANU Annual Conference, May 28, 1969. Reproduced in Freedom and Development, p. 91, p. 93.

<sup>32</sup>In "Socialism and Rural Development," for example, Nyerere elaborates on the Ujamaa scheme and emphasizes that food crop growing is the first priority of the new villages. Found in Svendsen, Self-Reliant Tanzania, pp. 246-271.

<sup>33</sup>Second Five Year Plan, p. xv.

<sup>34</sup>Tanzania Ten Years After Independence. Report by the President of TANU (Dar es Salaam: Ministry of Information and Broadcasting, 1972), p. 30.

<sup>35</sup>The study is by S.M. Mbilinyi, R. Mabele, and M.L. Kyomo, "The Economic Struggle of the TANU Government," in Towards Ujamaa (Twenty Years of TANU Leadership), ed. Gabriel Ruhumbika (Dar es Salaam: East African Literature Bureau, 1974), pp. 59-107. Similar arguments may be found in Lofchie, "Origins of African Hunger"; Pratt, The Critical Phase, chapter 8; and R.L. Raikes, "Ujamaa and Rural Socialism," Review of African Political Economy (May-October 1974).

<sup>36</sup>Mbilinyi, *Ibid.*, based on their interpretation of the data, p. 93.

<sup>37</sup>Bank of Tanzania, Economic Bulletin (December 1973); and The Sunday News, 17 November 1974.

<sup>38</sup>For a fuller discussion see Kjekshus, "Tanzanian Villagization Policy".

<sup>39</sup>See the Economic Survey, 1975-1976 (Dar es Salaam: Government Printer, 1976), which emphasizes the increased use of pricing as an aspect of food policy.

<sup>40</sup>U.S. Department of Agriculture, "Tanzania Boosts Food Output, Cuts Imports," Foreign Agriculture Reports, January 16, 1978, pp. 10-11.

<sup>41</sup>Lofchie, "Origins of African Hunger", and Kjekshus, "Tanzanian Villagization Policy", consider this problem to be a prominent factor in the deterioration of the food situation, as do a number of other observers. See note 56 below.

<sup>42</sup>Data is from Gerhard Tschannerl, "The Political Economy of Rural Water Supply," African Environment 1(October 1975): 51-76. He points out that the provision of water is one of the most expensive services for the government to provide. For a similar assessment see United Nations, Economic and Social Commission, Services for Children

and Special Assistance, Recommendation for Executive Director on Project Proposed by United Republic of Tanzania, 20 April 1977. (New York: 1977).

<sup>43</sup>For example see Bank of Tanzania, Economic Bulletin (December 1972 and June 1974); and the Economic Survey 1971/1972 and the Economic Survey 1973/1974 (Dar es Salaam: Government Printer, 1972 and 1974).

<sup>44</sup>Economic Bulletin, September 1976, p. 7.

<sup>45</sup>This is the assessment of the Bank of Tanzania in its Economic Bulletin, March 1976. It is interesting to note that the major portion of the decrease was in food grains which were down by 79% in 1976 (see Table 3).

<sup>46</sup>The major contributors will be the World Food Program, the United States, Britain, and Canada. See the report in the Quarterly Economic Review of Tanzania and Mauritius (London: Economic Intelligence Unit, Limited, first quarter 1978).

<sup>47</sup>Increased acreage no longer appears to be a significant short-term alternative to better husbandry. Africa, February 1978.

<sup>48</sup>Recommendation for Executive Director on Project Proposed by United Republic of Tanzania.

<sup>49</sup>The crop loss estimates are based on government studies conducted in 1977. Discussed in African Research Bulletin 15 (January-February 1978):4580.

<sup>50</sup>An outline of the Plan is presented in Quarterly Economic Review, first quarter 1978, and Foreign Agriculture Reports, January 16, 1978.

<sup>51</sup>The government admits this, see Foreign Agricultural Reports, Ibid.; Quarterly Economic Review, fourth quarter 1977; and Amon Nsekela, the High Commissioner of Tanzania in the Court of St. James, "Nationalism and Social Engineering in Tanzania," Africa, May 1978, pp. 70-72.

<sup>52</sup>Compare the views of the Minister of Agriculture, cited in Quarterly Economic Review, first quarter 1978, with those of the Bank of Tanzania, Economic Bulletin, September 1977.

<sup>53</sup>"The Arusha Declaration Ten Years After," (excerpts), International Development Review 19 (January 1977):3-4.

<sup>54</sup>Ibid.

<sup>55</sup>Ibid.



<sup>56</sup>For example see Lofchie, "Origins of African Hunger," Tschanerl, "Rural Water Supply"; L.V. Kiva, "Tropical Africa: Certain Problems of Revolutionary-Democratic Reform in the Countryside (Ujamaa in Tanzania)," International Journal of Politics (Winter 1976/1977): 87-105; Dean McHenry, "Peasant Participation in Communal Farming: The Tanzanian Experience," African Studies Review 20(December 1977): 43-64; and James DeVries, "Agricultural Extension and Development: Ujamaa Villages and the Problem of Institutional Change," Community Development Journal 13(January 1978):11-20.

<sup>57</sup>Similar assessments are found in Connell, "Tanzanian Rural Development"; DeVries, *Ibid.*; Kiva, *Ibid.*; and McHenry, *Ibid.*

<sup>58</sup>Nsekela, "Nationalism and Social Engineering in Tanzania", p. 70.

<sup>59</sup>It is necessary here to make some reservations about the accuracy of the demographic statistics which are currently available from most regions of Africa. Most are notoriously unreliable and should only be interpreted as indications of general trends, subject to substantial error. The problem is succinctly discussed in J.G.C. Blacker "Demography," in East Africa: Its People and Resources, ed. W.T.W. Morgan (New York: Oxford University Press, 1972), pp. 41-57. The Tanzanian situation is discussed more fully in R. Henin and E. Egero, The 1967 Population Census of Tanzania: A Demographic Analysis (Dar es Salaam: University College, Bureau of Resource Assessment and Land Use Planning, October 1972).

<sup>60</sup>Data in this paragraph is drawn from World Bank Tables, 1976; Population Reference Bureau, 1978 Population Data Sheet (New York: Population Reference Bureau, 1978); and Africa Reports 23(February 1978).

<sup>61</sup>There are a number of studies which emphasize the crucial importance of the internal variabilities to understanding the Tanzanian population situation; including Ian Thomas, ed., Population Density in Tanzania (Dar es Salaam: University College, Bureau of Resource Assessment and Land Use Planning, 1967); and W.A. Hance, "The Crudeness of Crude Densities," in Population Growth and Economic Development in Africa, eds. S.H. Ominde and C.N. Ejiogu (London: Heineman, 1972).

<sup>62</sup>Tanzania has had only one official census since independence which took place in 1967. The government undertook a second official population census in 1978.

<sup>63</sup>Henin and Egero, Population Growth in Africa, p. 52.

<sup>64</sup>One of the first instances was in the Second Five Year Plan, section on Commerce and Trade. A fuller discussion of these problems for Tanzania is undertaken in L.B. Monyake, "Spatial Redistribution, Other Policies and Programmes," in Population in African Development, ed. Pierre Cantrelle, volume 2 (Dolhain, Belgium: International Union for the Scientific Study of Population, Ordina Editions, 1974), pp. 135-144.

<sup>65</sup>For a recent example see "Low Birth Rate in Central Africa Causes Concern," New York Times 22 January 1978, which makes specific reference to Tanzania.

<sup>66</sup>For a current example of the public resistance to the government's periodic attempts to implement this policy see the report in Africa Reports, March-April 1978, p. 31.

<sup>67</sup>Cited in T.E. Smith, "Trends in Population Policy-Making in English Speaking Sub-Saharan Africa," in The Population Factor in African Studies, eds. R.P. Moss and R.J.A.R. Rathbone (London: University of London Press, 1975), pp. 157-162.

<sup>68</sup>Second Five Year Plan, p. xii.

<sup>69</sup>Noted in Population Reference Bureau, World Population Growth and Response 1965-1975 (New York: Population Reference Bureau, 1976), p. 57. Also see the African Population Newsletter 25 (June 1977), pp. 16-18.

<sup>70</sup>The major contributors in the 1973-1975 period included the United States, \$4.7 million; Sweden, \$4.6 million; Denmark, \$1.3 million; Finland, \$1.5 million; and Norway, \$1.2 million. World Population Growth and Response, p. 58.

<sup>71</sup>A typical example of this perspective being proposed by an influential international agency is the World Bank, Population Planning (Sector Working Paper) (Baltimore: Johns Hopkins Press, March 1972). In it population growth is clearly identified as a cause of underdevelopment, and family planning is primarily defined as population control, pp. 1-10. Another noted example of this view is John C. Caldwell, ed., Population Growth and Socioeconomic Change in West Africa (New York: Columbia University Press, 1975). This work was hailed as a seminal work in African demography.

<sup>72</sup>Svendsen, Self-Reliant Tanzania, who was a former professor at University College, pp. 24-25.



<sup>73</sup>For a discussion of the African position in general at Bucharest see "Africa and Its Population Growth," Population Bulletin 30 (January 1975), entire edition. Tanzania is specifically discussed in Nancy Birdsall, "Health Planning and Population Policy in Africa," African Studies Review 19(September 1976):19-33.

<sup>74</sup>The most notable presentation of the argument that population growth may spur agricultural development in the African case is found in Ester Boserup, The Conditions of Agricultural Growth (The Economics of Agrarian Change Under Population Pressure) (London: Allen and Unwin, 1965). Other examples of those who refute the proposition that population is a "problem" for Africa include: Aderanti Adepoju, "Population Policies in Africa: Problems and Prospects," African Affairs, October 1975; and Samir Amin and Frances Okediji, "Land Use, Agriculture and Food Supply, and Industrialization," in Population in African Development, ed. Cantrelle, pp. 409-420.

<sup>75</sup>Adepoju, *Ibid.*, p. 469.

<sup>76</sup>By recent estimates, 99% of Tanzania's population uses fuelwood and 96% of the yearly consumption of timber is as fuelwood, amounting to 1.8 tons per capita annual consumption. Data is drawn from Erik P. Eckholm, Losing Ground: Environmental Stress and World Food Prospects (New York: W.W. Norton, 1976), pp. 96-98.

<sup>77</sup>An example of a succinct presentation of this assessment is C.M. Nyirabu, then Governor in the Bank of Tanzania, in the Bank's Economic Bulletin, September 1974, pp. 23-24. A more detailed analysis which supports his conclusions is available in David French, "Energy for Africa's Future," Africa Report, May-June 1978, pp. 9-14.

<sup>78</sup>Africa Report, July-August 1976, p. 26.

<sup>79</sup>For example, see the Economic Survey 1975/1976, the section on Water and Power, p. 91. Also see the Quarterly Economic Review, 2nd quarter 1978. A more detailed analysis is available in S.M. Wangwe, "Factors Influencing Capacity Utilisation in Tanzanian Manufacturing," International Labour Review 115(January-February 1977): 65-77.

<sup>80</sup>C.D. Msuya, "Foreign Aid and Tanzanian Development," Rasili-mali, January 1974, p. 4.

<sup>81</sup>Nyirabu, Economic Bulletin, pp. 23-24.

<sup>82</sup>This conclusion is suggested by the account given in Leonard Berry, ed., Tanzania in Maps: Graphic Perspective of a Developing Country (New York: Africa Publishing Corporation, 1973), especially the section on "Energy Supplies", pp. 96-97. The argument is made more

forcefully in French, "Energy for Africa's Future". French was a former consultant to USAID in Africa.

<sup>83</sup>In 1962 only 4% of the fuelwood consumed was marketed and the situation does not appear to have changed significantly. Tanzania in Maps, Ibid., p. 96.

<sup>84</sup>Second Five Year Plan, the section on the Industrial Sector outlines these goals.

<sup>85</sup>Wangwe, "Tanzanian Manufacturing", discusses the significance of this project to the manufacturing sector.

<sup>86</sup>Reported in US Department of Commerce, Overseas Business Reports, March 1977, p. 6.

<sup>87</sup>One of the more informed evaluations is presented by Reginald H. Green, "Aspects of the World Monetary and Resource Transfer System in 1974: A View From the Extreme Periphery," in A World Divided, ed. G.K. Helleiner (London: Cambridge University Press, 1976), pp. 251-273. Green is a former economic advisor to the Treasury of the United Republic of Tanzania.

### Chapter III

<sup>1</sup>These Presidents have included: Humberto Castelo Branco (1964-1967); Arthur da Costa e Silva (1967-1969); after which the term of office became five years with Emilio Garrastazu Medici (1969-1974); Ernesto Geisel (1974-1979); and Joao Baptista Figueiredo, who assumed office in March 1979.

<sup>2</sup>The situation appears to be loosening somewhat as under Geisel some political liberalization occurred and in January 1979 Institutional Act No. 5 was revoked. This was the Act which gave the President the authority to close Congress at will and deprive citizens of most political rights. The effects of these developments on the military's dominance still remains to be seen. See The New York Times, 7 January 1979, and the North American Congress on Latin America, Report on the Americas 12(November-December 1978):49-51.

<sup>3</sup>The income distribution question has now become a major issue in Brazil. The government's own figures showed that between 1960-1970, while the total income of all sector's rose, that the benefits gained by the top 5% of income earners were grossly disproportionate. In this period the top 5% share of the national income increased from 27% to 36%, while the next 15% of income earners retained their share at 27%--thus the top quintile accounted for 63% of the national income. Meanwhile the lower 40% of income earners' share declined from 11% to 9%.

For a recent account of this issue see the Latin American Economic Report, May 12, 1978, p. 144. (henceforth LAER)

<sup>4</sup>Recent indications are that multi-party participation in the political system has become a real possibility. This development will not, however, be a serious consideration here since during the period under discussion in this chapter only two parties were allowed to exist.

<sup>5</sup>Needless to say this is a somewhat oversimplified characterization. For one of the better accounts of the foundations of the military regime's developmental strategy see Thomas Skidmore, "Politics and Economic Policy Making in Authoritarian Brazil, 1937-71," in Authoritarian Brazil, ed. Alfred Stepan (New Haven: Yale University Press, 1973), pp. 3-46.

<sup>6</sup>From "The Brazilian Economy in 1975," in Brazil on the March II (London: Brazilian Embassy, September 1976), p. 45.

<sup>7</sup>The basic administrative divisions of Brazil are 5 Regions, 26 States, and 3974 Municipios.

<sup>8</sup>The percentages are drawn from Brazil's Energy and Heavy Industries (London: Brazilian Embassy, July 1977), p. 39. Two of the best analyses of the "states" expanded role in the economy are: Werner Baer, Richard Newfarmer, and Thomas Trebat, "On State Capitalism in Brazil: Some New Issues and Questions," Inter-American Economic Affairs 30(Winter 1976), pp. 69-91. One of their findings reveals that between 1964-1974 the state's share of the nation's 300 largest industrial assets increased from 17% to 32%, while its share of comparable manufacturing assets increased from 8% to 16%--in both cases the Brazilian private sector's share decreased the same percentages. A more recent discussion of these trends is presented in Jose Roberto Mendonca de Barros and Douglas Graham, "The Brazilian Economic Miracle Revisited: Private and Public Sector Initiatives in a Market Economy," Latin American Research Review (13), pp. 5-38.

<sup>9</sup>For example, between 1967-1974 the value of Brazil's exports increased from \$1.6 billion to \$8 billion. Foreign investment, which stood at \$1.7 billion in 1969, was at \$5.5 billion in 1974 and had more than doubled again to \$12 billion in 1977. The foreign debt was at \$3.8 billion in 1968 and at \$17 billion by 1974, reaching \$40 billion by 1978. Data is drawn from International Monetary Fund, International Financial Statistics (Washington, D.C.: IMF, monthly).

<sup>10</sup>Brazil has, for instance, run a trade deficit (with the exception of 1977) since 1970 as well as had a negative balance of payments in all years of the 1970s. Debt service has now reached massive proportions, totaling \$8 billion in 1978--fully 66% of the value of all exports. Recent accounts of these issues and their constraining affects

on the governments developmental priorities may be found in the LAER, October 27, 1978, and Bank of London and South America Review, (hereafter BLSAR), (London: Lloyds Bank International, Ltd.), October 1978.

<sup>11</sup>For example, one recent account points out that in 1973 the three states of Guanabara, Rio de Janeiro, and Sao Paulo--which covered only 3.5% of Brazil's total land area and held 28.5% of the population--accounted for 54% of the Gross Domestic Product, 71.4% of total industrial output, and 26.3% of total agricultural output. BLSAR, February 1978.

<sup>12</sup>According to government figures, primary energy consumption increased by two-thirds from 1966-1973. In the same period consumption of petroleum more than doubled, as did electricity consumption. See Anuario Estatístico do Brasil 1977 (Rio de Janeiro: Fundacao Instituto Brasileiro de Geografia e Estatistica, Secretaria de Planejamento da Presidencia da Republica, 1978), p. 482. (hereafter IBGE, Annual Statistics).

<sup>13</sup>Brazil's Energy and Heavy Industries, p. 6.

<sup>14</sup>The structure of Brazil's energy consumption breaks down into the following: oil and gas account for 48% of consumption, charcoal and vegetable matter for 25%, electric power for 24%, and coal for 3%. Data from Brazilian Bulletin (New York: Brazilian Government Trade Bureau), October 1974. It is interesting to note that natural gas is the least significant type of energy consumed, accounting for less than 0.5% of total consumption from 1965-1975, and that the government projects a reduction in its usage by 1985. Brazil's Energy and Heavy Industries, p. 25.

<sup>15</sup>Surprisingly, as late as 1976 imported coal still cost less per ton to Brazil than did domestic coal, due to the poor development of the coal industry. Brazil's Energy and Heavy Industries, p. 15.

<sup>16</sup>Thomas Weil et al, Area Handbook for Brazil (Washington, D.C.: Government Printing Office, 1971), p. 25.

<sup>17</sup>One government source sees this problem becoming increasingly important to the viability of the steel industry. See the discussion in Brazil's Energy and Heavy Industries, pp. 30-31. The latest reliable estimate by the Brazilian National Space Research Institute is that as much as one-tenth of the Amazon forest has already been razed with no reliable knowledge about the future effects. See the Boston Globe, 16 January 1979.

<sup>18</sup>From "Current Aspects of Brazil's Economy," Brazilian Bulletin, October 1974, p. 1. Brazil uses very little oil for heating or electrical generation, its use is confined almost exclusively to these strategic areas.



<sup>19</sup> From 1967-1974 production increased by 20%, but over the same period domestic production fell from 38% of total consumption to only 20%. See Stefan Robock, Brazil: A Study in Development Progress (Lexington, Mass.: D.C. Heath, 1975), p. 98. From 1967-1973 alone the volume of oil imports tripled, while their cost increased five times.

<sup>20</sup> It is interesting to point out that in 1969, when the government announced its commitment to off-shore exploration, the greatest oil potential lay in Brazil's shale deposits. Brazil had approximately 40% of the world's shale deposits then with a reliably estimated oil-bearing potential of 800 billion barrels. The costs of exploiting these deposits were deemed prohibitive then and they are still generally neglected for this reason. For a fuller discussion see Peter Seaborn Smith, Oil and Politics in Modern Brazil (Toronto: MacMillan, 1976).

<sup>21</sup> Peter Seaborn Smith, *Ibid.*, is one who makes this argument, pointing out that by 1970 oil reserves in Brazil had increased by only one-third over the 1960 figure, not nearly sufficient given the comparable increases in consumption. Also, between 1969-1972 the costs of petroleum imports had grown from 10% to 12% of total import costs.

<sup>22</sup> Brazil's Energy and Heavy Industries, p. 5.

<sup>23</sup> These aspects of the electrical energy sector are discussed in Janet D. Henshall and R.P. Momsen, Jr., A Geography of Brazilian Development (London: G.Bell and Sons, 1974), pp. 188-190; and in U.S. Department of Commerce, Overseas Business Reports, December 1973. See also IBGE, Annual Statistics for statistical evidence of the urban bias of the distribution of electric power among domiciles, p. 268. It is also interesting to note that wood is still the third largest source of energy behind oil and electricity, although its use has declined steeply in the past decade. Its use for a fuel in households is most important in rural areas, but reliable statistics on consumption and usage are scarce. See Brazil's Energy and Heavy Industries, p. 25.

<sup>24</sup> Brazil's Energy and Heavy Industries, p. 5.

<sup>25</sup> See Projeto Do II Plano Nacional De Desenvolvimento PND (1975-1979) (Brasília: Republica Federativa Do Brasil, Setembro de 1974), chapter VIII, "Politica De Energia".

<sup>26</sup> Statement is by Paulo Nogueira Batista, reported in Veja, 23 July 1975.

<sup>27</sup> Statement of Shigeaki Ueki, reported in Manchete, October 18, 1975, pp. 32-34.

<sup>28</sup>For a concise summary of this agreement see Norman Gall, "Arms for Brazil, Dangers for All," Bulletin of Atomic Scientists 33(June 1976):5-9. The primary attraction for West Germany was Brazil's uranium resources. In 1976 Brazil's "proven reserves" were put at 16,500 tons, but preliminary explorations in the Amazon had produced government estimates of potentially half a million tons, Jornal do Brasil 10 April 1976. The commitment to nuclear also indicated how grave the energy situation had become, for it jeopardized Brazil's relations with the United States, whose government strongly objected to the agreement with West Germany. But in the Brazilian government's eyes it was apparently a risk worth taking.

<sup>29</sup>Ueki's statements are reported in O Estado de S. Paulo, 25 March 1976; Jornal do Brasil, 9 July 1976; and Brazilian Bulletin, September 1975. In 1970 Brazil's total petroleum reserves were put at 857 million barrels; by the end of 1976 PETROBRAS put "proven reserves" at 800 million barrels, plus another 180 billion on the continental shelf. See Brazil's Energy and Heavy Industries, p. 21.

<sup>30</sup>From 1974-1976 off-shore production increased from 13% to 19% of total production, while 1976 production was 5% below the 1974 level. IBGE, Annual Statistics, p. 488.

<sup>31</sup>See the discussion in Peter Seaborn Smith, "Brazilian Oil: From Myth to Reality," Inter-American Economic Affairs 30(Spring 1977):45-61.

<sup>32</sup>The initial successes of the program and its major facets are discussed in Peter Seaborn Smith, *Ibid.*, and in United Nations, Food and Agricultural Organization's Review on Agriculture and Development, Ceres, March-April 1977, p. 4.

<sup>33</sup>The exact figures on production and consumption levels differ considerably depending on the source. The important point, however, is that the trends remain the same and that Brazil's oil situation has significantly worsened in the past two years. My assessment is drawn from BLSAR, July 1978; LAER, August 4, 1978 and September 1, 1978; and Quarterly Review of Oil in Latin America and the Caribbean (London: Economist Intelligence Unit, quarterly), first-fourth quarter 1978.

<sup>34</sup>The New York Times, 7 October 1979.

<sup>35</sup>Reported in LAER, June 30, 1978, p. 196. At that, even the lowest estimate of production requires more than doubling the 1978 average rate of 168,000 barrels per day by 1985. See Quarterly Review of Oil, third quarter 1978.

<sup>36</sup>LAER, June 30, 1978, p. 196.



<sup>37</sup>The government figures are reported in BLSAR, February 1978 and July 1978. These may be compared with the lower estimates of the Organization of Economic Cooperation and Development, reported in the BLSAR, April 1978, and an independent estimate which appeared in The New York Times, 11 November 1978.

<sup>38</sup>The critical nature of the oil situation has also led PETROBRAS to use questionable methods of field exploitation to speed off-shore deposits into service. As one recent account has observed, "Industry sources say the provisional production methods may hamper the long-term development of the Campos field, but they are justified by PETROBRAS in view of Brazil's oil needs." LAER, June 30, 1978, p. 196.

<sup>39</sup>These measures are reported in BLSAR, February 1977 and January 1978; and Quarterly Economic Review of Brazil (London: Economist Intelligence Unit, quarterly), second quarter 1978. The recent push to use coal in other areas has apparently exacerbated the import situation; 20 million tons of coking coal are now imported annually and local production now accounts for only 20% of consumption. See LAER, March 10, 1978.

<sup>40</sup>Velloso's remarks are reported in LAER, February 10, 1978. The most recent data indicate that alcohol use now accounts for 9% of the fuel used in automobiles in Brazil, LAER, December 1, 1978. One of the obvious attractions for Brazil in this program, which minimizes its economic drawbacks, is that it involves a renewable energy resource over which they have total control, in marked contrast to oil.

<sup>41</sup>The full text of the statement may be found in Brazil's Energy and Heavy Industries, pp. 17-20. This citation is from p. 17.

<sup>42</sup>Ibid., p. 17.

<sup>43</sup>For recent reports see LAER, February 10, 1978 and November 17, 1978.

<sup>44</sup>For a summary of these problems see LAER, August 4, 1978. These problems came to a head in October of 1979 when, due to these difficulties with the program, the government decided to cut by one-half--to four--the number of plants which it wished to purchase from West Germany. With the West German government strongly protesting such a decision, the status of the agreement is now quite up in the air. See the Boston Globe, 14 October 1979.

<sup>45</sup>Again, outside estimates of Brazil's uranium resources are less optimistic. For example, a 1977 OECD report put "reasonably assured resources" at 4,200 tons with additional resources of 8,200 tons. The dispute revolves around how many of the deposits are "measured and indicated" versus just "inferred" deposits. See BLSAR, April 1978. It did

not help the credibility of the government in this area when it recently announced that it had entered into a ten year agreement with the Dutch to supply Brazil with enriched uranium for fueling its nuclear power plants. The government's justification was that this was necessary to get the first plants on line on schedule. See LAER, February 24, 1978.

<sup>46</sup>See Quarterly Economic Review of Brazil, second quarter 1978, p. 13.

<sup>47</sup>The current problems on Itaipu are reported in LAER, September 29, 1978, p. 299.

<sup>48</sup>The breakdown of electrical consumption for 1977 was reported in BLSAR, April 1978. The inequalities in distribution among regions has in fact worsened with the South and Southeast consuming 84% of total output in 1976. See Brazil's Energy and Heavy Industries, p. 15. The effects of the drought on the energy supply are discussed in The New York Times, 5 May 1978.

<sup>49</sup>The position of the IBGE is discussed in the Area Handbook for Brazil, p. 33. The state of the basic data on Brazil's population is discussed by Sheldon Segal of the Population Council in Population Growth and Human Productivity, ed. Manuel J. Carvajal (Gainesville, Fla: University of Florida, Center for Latin American Studies, 1976), pp. 215-228; and by Thomas G. Sanders, "Brazil" in Population: Perspective, 1971, eds. Harrison Brown and Alan Sweezy (San Francisco: Freeman, Cooper, and Company, 1972), pp. 83-111.

<sup>50</sup>The data in this paragraph is drawn from IBGE, Annual Statistics 1977, pp. 69-82, and the World Bank Tables, 1976.

<sup>51</sup>Data is drawn from IBGE, Annual Statistics, various editions 1974-1977; Brazil: Resources and Possibilities (Brasilia: Ministerio das Relacoes Exteriores, 1977); World Bank Tables, 1976; and Overseas Business Reports, December 1973.

<sup>52</sup>The calculations are by Sheldon Segal in Population Growth and Human Productivity.

<sup>53</sup>The main currents of Brazil's historical perspective on population are described in Weil, Area Handbook for Brazil; and Sanders, "Brazil," and South American Attitudes Toward Population Limitation (American Universities Field Staff Reports, East Coast South America Series), volume 18, number 3, 1974.

<sup>54</sup>This is the opinion of two noted Brazilian authors: Mario Henrique Simonsen, Brazil 2000 (Rio de Janeiro: APEC Editora, 1972), especially chapter 4; and demographer Joao Lyra Madeira, in Migracoes internas no Brasil, ed. Manuel A. Costa (Rio de Janeiro: Instituto de

Planejamento Economico e Social, 1971), p. 42. Both argue that fertility was a taboo subject for economic research in this period in Brazil. This is also the judgment of Thomas W. Merrick, "Population, Development, and Planning in Brazil," Population and Development Review 2(June 1976):181-199.

<sup>55</sup>Reported in Jornal do Comercio, 13 August 1968.

<sup>56</sup>Cited in Thomas G. Sanders, The Politics of Population in Brazil (American Universities Field Staff Reports, East Coast South America Series), volume 15, number 1, 1971, p. 3. A number of students suggest that the connection of the population issue with unwarranted external intervention by the industrial states into Brazil's affairs was also an important reason why the issue was "too hot to handle" in the 1960s. See, for example, Vivian Xenia Epstein's comments in Population Policies and Growth in Latin America (Lexington, Mass.: Lexington Books, 1971)..

<sup>57</sup>This is still a hotly debated topic. For two opposing views see Merrick, "Population and Planning in Brazil," who concludes that lower population growth in Brazil between 1950-1970 would not have affected aggregate economic growth in this period; and Herman Daly, "The Population Question in Northeast Brazil: Its Economic and Ideological Dimensions," Economic Development and Cultural Change 18(July 1970):536-574, who concludes that "... population is the main factor holding back greater economic growth.", p. 542.

<sup>58</sup>The former statement was by Planning Minister Joao Paulo dos Reis Velloso, cited in Henshall and Momsen, A Geography of Brazilian Development, p. 7; the latter is by then Finance Minister Delfim Neto, reported in Latin America, July 3, 1970, p. 214.

<sup>59</sup>Medici's comments were reported in Veja, June 10, 1970, and are also cited in Sanders, "Brazil", p. 91.

<sup>60</sup>Medici, Ibid.

<sup>61</sup>This is the judgment of both Sanders, "Brazil", and Epstein, among others.

<sup>62</sup>For a detailed description of the goals and purposes of this effort, which was part of the Program for National Integration launched in 1970, and since abandoned for lack of success, see Amazonia (London: Brazilian Embassy, February 1976).

<sup>63</sup>See Peter McDonough and Amaury De Souza, "Brazilian Elites and Population Policy," Population and Development Review 3(December 1977): 377-401.

<sup>64</sup> See Statement of the Brazilian Representative, III World Population Conference, General Debate, Plenary Session, 26 August 1974 (New York: United Nations, 1975).

<sup>65</sup> Cited in Sanders, South American Attitudes Toward Population Limitation, p. 10.

<sup>66</sup> See II Plano Nacional De Desenvolvimento PND, chapter V, and also the summary found in Merrick, "Population and Planning in Brazil,"

<sup>67</sup> II Plano Nacional De Desenvolvimento PND, p. 51.

<sup>68</sup> Ibid.

<sup>69</sup> Merrick, "Population and Planning in Brazil," makes this argument. For another view see McDonough and De Souza, "Brazilian Elites and Population Policy," who suggest that the recent economic decline will revitalize concern with excessive population growth because its effects will be more immediately evident.

<sup>70</sup> See the statement by Walter Rodrigues, M.D., "Family Planning Programs: A World Review 1974," Studies in Family Planning 6(August 1978), p. 266.

<sup>71</sup> Ibid.

<sup>72</sup> The most recent upsurge in family planning activities at these levels is discussed in Merrick, "Population and Planning in Brazil," and in the section on Brazil in Population Reference Bureau, World Population Growth and Response 1965-1975. Merrick and McDonough and De Souza, "Brazilian Elites and Population Policy," are two studies which foresee an increased commitment to population policy at the national level.

<sup>73</sup> The principal staples are rice, maize, manioc, dry beans, wheat, and potatoes. Some accounts also include milk, fruits, and meat but, in general, their consumption still appears to be largely confined to the affluent areas of the South and Southeast. The recent expansion in livestock and fruit production appears to be more a response to export markets than an increase in their domestic consumption (e.g., from 1965-1975, while the export of meats rose significantly in all but the last two years, saw the per capita consumption of livestock products in Brazil actually decline). See Weil, Area Handbook for Brazil, and Ministerio das Relacoes Exteriores, Brazil: Resources and Possibilities.

<sup>74</sup> In 1965-1967 imports of wheat accounted for 85% of total consumption in Brazil and, because of poor conditions at that time, it would have cost more to expand domestic production of wheat than to



just import more. Imports have fallen in recent years to about 55% of consumption during 1973-1976; but with changing world food conditions the cost of wheat on the world market has more than doubled in that time. For the actual figures see IBGE, Annual Statistics 1977, and the United Nations, Yearbook of International Trade Statistics, various years.

<sup>75</sup>The best summary of agricultural policy in this period is Gordon W. Smith, "Brazilian Agricultural Policy, 1950-1967," in The Economy of Brazil, ed. Howard Ellis (Berkeley: University of California Press, 1969):211-265. Two studies which focus more on agricultural policy under the military are Donald E. Syvrud, Foundations of Brazilian Economic Growth (Washington, D.C.: American Enterprise Institute, 1974), and John H. Sanders and Frederick L. Bein, "Agricultural Development of the Brazilian Frontier: Southern Mato Grosso," Economic Development and Cultural Change 24(April 1976):593-610.

<sup>76</sup>The last full agricultural census in 1970 found that farms under 10 hectares in size comprised 51% of all farms but occupied only 3.1% of the total farmland; while farms larger than 1,000 hectares, comprising only 0.8% of all farms, occupied 39% of all farmland. The preliminary results of the 1975 census indicate that farms under 10 hectares now comprise 52% of all farms, but occupy only 2.8% of all farmland, while farms larger than 1,000 hectares, still comprising only 0.8% of all farms, now occupy 43% of all farmland. See IBGE, Annual Statistics 1977, p. 304, for full results. For a fuller discussion of these trends see Henshall and Momsen, A Geography of Brazilian Development; and C. Daniel Dillman, "Absentee Landlords and Farm Management in Brazil During the 1960s," American Journal of Economics and Sociology 37(January 1978):1-8; and T. Lynn Smith, The Race Between Population and Food Supply in Latin America (Albuquerque: University of New Mexico Press, 1976). Smith argues that by the mid-1970s three out of four rural laborers in Brazil were landless.

<sup>77</sup>For example, in 1970 farms of less than 100 hectares, which comprised 90% of all farms but occupied only 23% of total farmland, accounted for 58% of total production; while farms of 10,000 hectares or more, comprising 0.1% of all farms and occupying 12% of farmland, contributed only 2% of total production. This example is drawn from Paulo F.C. de Araujo and Richard Meyers, "Agricultural Credit Policy in Brazil: Objectives and Results," American Journal of Agricultural Economics 59(December 1977):957-961. The relationship between farm size and productivity is more fully discussed in D.E. Goodman, "Rural Structure, Surplus Mobilisation, and Modes of Production in a Peripheral Region: The Brazilian Northeast," Journal of Peasant Studies 5(October 1977): 3-32; and also Shepard Forman, The Brazilian Peasantry (New York: Columbia University Press, 1975).

<sup>78</sup>The Race Between Population and Food Supply, p. 19.

<sup>79</sup>Virtually all serious studies of Brazilian agriculture agree on these points; for examples see Henshall and Momsen, A Geography of Brazilian Development; Syvrud, Foundations of Brazilian Economic Growth; and William H. Nicholls, "The Brazilian Food Supply: Problems and Prospects," Economic Development and Cultural Change 19 (April 1971):378-390.

<sup>80</sup>This is also a generally acknowledged fact, see Syvrud, *Ibid.*; especially pp. 25-27; Nicholls, *Ibid.*; and for the Brazilian government's view which generally agrees see Social Aspects of Brazilian Economic Development (London: Brazilian Embassy, 1974), pp. 29-33.

<sup>81</sup>The potential for further expansion still appears, theoretically, to be unlimited. As one government publication pointed out, in 1974 only 12% of the land completely favorable to agriculture was then being used. Brazilian Bulletin, March 1975, p. 6. At that, less than 20% of "farmland" was under crops, the rest was idle or being used as pastureland. See Nicholls, *Ibid.*; Forman, The Brazilian Peasantry; and Robock, A Study in Development Progress, all of whom cite the generally favorable conditions for the future expansion of cultivation.

<sup>82</sup>A fuller description is available in Weil, Area Handbook for Brazil, p. 418. It is also interesting to note that "land reform" was a part of the government's program from 1964 onward. The program was not even implemented until 1967, however, and its effects after that were less than spectacular. For a discussion of the program in this period see C. Daniel Dillman, "Land and Labor Patterns in Brazil During the 1960s," American Journal of Economics and Sociology 35 (January 1976):49-70.

<sup>83</sup>Weil, *Ibid.*, p. 418.

<sup>84</sup>Nicholls, "Brazilian Food Supply," p. 383. Similar evaluations may be found in Syvrud, Foundations of Brazilian Economic Growth; and Gordon W. Smith, "Brazilian Agricultural Policy,"

<sup>85</sup>At this time, for example, 85% of the fertilizer consumed was used in the advanced east regions, Henshall and Momsen, A Geography of Brazilian Development, p. 102. A study of the effects of the government's credit policy also revealed that by 1970, 90% of the farms were still untouched by credit programs. Of that which was distributed, approximately 75% went to the more commercialized regions, while only 5% of credit went to farms smaller than 10 hectares, which constituted 51% of all farms, Araujo and Meyers, "Agricultural Credit Policy in Brazil."



<sup>86</sup>In his detailed study Stefan Robock points out that between 1967-1972, among the major crops, the average annual increases in production were significantly higher for the export-oriented crops. For example, soybean production rose 34.8% annually in this period, oranges 7.9%, cotton 6.7%, cocoa 5%; while for maize the figure was 3.4%, rice 2.3%, dry beans 1.6%, manioc 1.4%, and potatoes 0.3%. A Study in Development Progress, p. 102. Others who point to the stagnation of food crop production and productivity are D.E. Goodman, "The Brazilian Northeast," and Syvrud, Foundations of Brazilian Economic Growth.

<sup>87</sup>Weil, Area Handbook for Brazil, p. 418.

<sup>88</sup>Among those who note this trend in various parts of Brazil are Forman, The Brazilian Peasantry; and Sanders and Bein, "Southern Mato Grosso."

<sup>89</sup>Two additional factors which increased the impact of these developments were the decline in the lower income groups' share of the national income over the 1960-1970 period (see footnote no. 3 above) and the significant decline in the "real" purchasing power of the minimum wage--at which 45% of the economically active population were at or below, according to the 1970 census. See LAER, May 12, 1978. On the nutritional decline see Weil, Area Handbook for Brazil (1975 edition), pp. 156-157.

<sup>90</sup>The regional plans are outlined in II Plano Nacional De Desenvolvimento PND, pp. 52-60.

<sup>91</sup>Amazonia, p. 11.

<sup>92</sup>This is from a study by the Getulio Vargas Foundation, cited in the Brazilian Bulletin, February 1975, p. 3. Another report in the following issue of the Bulletin, March 1975, also declared that "Brazil was preparing itself to become the world's largest food producer", p. 6.

<sup>93</sup>From a speech reported in the Brazilian Bulletin, February 1976, p. 5.

<sup>94</sup>From an article by Secretary of State for Labor Relations, Alberto G. Chiarelli, "Social Security for Rural Workers in Brazil," International Labour Review 113(March-April 1976):159.

<sup>95</sup>Brazilian Bulletin, February 1975, p. 4. More than 40% of the soybean crop was exported as beans and oil in 1976, while an additional portion was used in the processing of other foodstuffs.

<sup>96</sup>The overall effects of the export push on the domestic food economy in this period are more fully discussed in Shelton H. Davis, Victims of the Miracle (London: Cambridge University Press, 1977), pp. 132-138. The specific case of the bean crop is discussed in Michael Harrington, The Vast Majority: A Journey to the World's Poor (New York: Simon and Schuster, 1977), pp. 149-151.

<sup>97</sup>An OECD report in 1976 concluded that 60% of the Brazilian population existed at levels below the UNFAO's caloric minimum, Harrington, Ibid. Davis, Ibid., also cites a Brazilian government survey which found a similar proportion of incidences of malnutrition among the adult population.

<sup>98</sup>For reports on these recent developments see LAER, April 21, 1978 and October 20, 1978; BLSAR, June and November 1978; and the New York Times, 7 May 1978.

<sup>99</sup>Among others, a report by the Banco do Brasil, released in 1978, pointed to the persistence of these trends. Reported in LAER, April 14, 1978 and the New York Times, 14 April 1978.

<sup>100</sup>This survey is cited in LAER, Ibid. Reports on the cutbacks in food crops may be found in BLSAR, November 1978, and U.S. Department of Agriculture, Foreign Agriculture, March 6, 1978.

<sup>101</sup>On the current problems with ranching, see Peyton Johnson, "Fighting the Frontier Fever," Ceres 11(July-August 1978), p. 2. The questions concerning the actual resource potential of the Amazon are discussed more fully in Martin Katzman, Cities and Frontiers in Brazil: Regional Dimensions of Economic Development (Cambridge: Harvard University Press, 1977). According to one recent report it is now estimated that only about 2% of the Amazon region is suitable for agriculture, Boston Globe, 16 January 1979.

<sup>102</sup>Reported in LAER, January 20, 1978 and September 8, 1978.

<sup>103</sup>The IBGE Survey is discussed in LAER, September 22, 1978, and that of the Vargas Foundation in LAER, October 6, 1978. According to another account, the real value of the minimum wage had declined by 80% between 1969-1977, LAER, May 12, 1978.

#### Chapter IV

<sup>1</sup>The Republics are Bosnia-Herzegovina, Croatia, Macedonia, Montenegro, Serbia, and Slovenia. The two Autonomous Provinces, located in Serbia, are Kosovo and Vojvodina.

<sup>2</sup>It is difficult to present all the dimensions of this issue without a full historical analysis which space does not allow. Thus this issue will be discussed specifically only in relation to its affects on the specific policies under consideration in this chapter (see especially the discussion of Population below). For a fuller discussion of this issue see Frits W. Hondius, The Yugoslav Community of Nations (Paris: Mouton, 1968).

<sup>3</sup>The Yugoslav electoral system cannot be fully explained here, but it is important to note that voters participate directly in the election of delegations only at the level of "organizations of associated labor", the process then works upward as "delegations" elect members at upper levels. The electoral process is described more completely in Zlatija Dukic-Veljovic, "The Assembly of the SFRY," The Yugoslav Survey 18(February 1977):3-22. See also Denison Rusinow, The Yugoslav Experiment 1948-1974 (Berkeley: University of California Press, 1977).

The Communist Party was renamed the League of Communists in 1952 after the break with Stalinist Russia and other Eastern Bloc countries. The League of Communists (LCY) is the dominant political institution and the only Party in the country, with amembership of just over one million in 1971--about 5% of the population. The role of the LCY has fluctuated considerably in the post-war period. In 1952 it was decided that the LCY's role was not to command and direct through control of the machinery of the state, but it was to play the leading role by discussion, education, and propaganda in development of the new system. A debate within the LCY over decentralization versus self-managment has been carried on throughout the post-war period and has variously affected the LCY's influence in certain periods. For the major dimensions of the LCY strategy in the period under consideration in this chapter see The Program of the League of Yugoslav Communists (Belgrade: Edition Jugoslavije, 1958).

The Socialist Alliance of Working People of Yugoslavia (SAWPY) is a national organization which is organized at the commune, Republic, and federal level. Its primary function is to allow individuals who agree with socialist aims to participate in electoral politics. SAWPY's membership was approximately 8 million in the early 1970s, see Yugoslav Life, January 18, 1973.

<sup>4</sup>The BOAL has replaced the "enterprise" as the central economic unit in the system. They are defined as "workunits which are formed for each unit of a work organization (enterprise) that makes up a working whole" (i.e., a plant, or a technological unit within a plant), thus there may be a number of BOALs in one factory. It is the primary means for workers to realize their self-management and socio-economic rights. Again it is not possible to fully discuss all the institutional organizations. The relevant organizations will be discussed as they relate to the specific policy issues discussed below. For a complete description of the institutional structure see, "The

Constitutional System of the Socialist Federal Republic of Yugoslavia," Yugoslav Survey 15(August 1974), entire issue.

<sup>5</sup>The figures are drawn from Organization for Economic Cooperation and Development, Economic Survey of Yugoslavia (Paris: OECD, annual). For a more detailed discussion of the economic structure see, World Bank, Yugoslavia: Development With Decentralization (Baltimore: Johns Hopkins, 1975); and Gordon C. McDonald, ed., Area Handbook for Yugoslavia (Washington, D.C.: Government Printing Office, 1973).

<sup>6</sup>For a concise review of the different periods of Yugoslavia's post-war development see the World Bank, *Ibid.*, chapter 1.

<sup>7</sup>World Bank, *Ibid.*, pp. 29-30. For a more detailed description of this strategy see V. Racic, "Fundamental Characteristics of the Yugoslav Economic System," in Economists on Problems of a Socialist Economy, ed. R. Stojanovic (New York: International Arts and Science Press, 1964). Since 1974 the BOAL has increasingly replaced the enterprise as the basic unit for planning implementation (see the discussion of planning below). Communes number approximately 501 in Yugoslavia. They are the basic administrative unit and are similar to counties in the United States in that they consist of both rural and urban areas.

<sup>8</sup>The Reform will be discussed in more detail in relation to its affects on the areas of energy and agricultural policy below. For a more complete discussion of the overall impact of the Reform see Economic Reform in Yugoslavia (London: Royal Institute of International Affairs, Political and Economic Planning, July 1968); and Pavle Sicherl, "Recent Developments in Yugoslavia's Economic System," East European Quarterly 5(1971):376-392.

<sup>9</sup>This aspect of the Reform sought to make the Yugoslav economy and its products more competitive in the international market and was a major priority under the Social Plan for 1966-1970. In the area of projected production gains increases in productivity were to account for 70% of production growth, whereas in all of the 1950s increases in labor productivity accounted for only 10% of production gains.

<sup>10</sup>Federal expenditures have progressively decreased as a proportion of total governmental expenditures over the last decade as decentralization has been carried out. For example, by 1973-1975 71% of all government expenditures were incurred below the federal level. OECD, Economic Survey for Yugoslavia, 1977.

<sup>11</sup>Under this planning procedure the BOALs, as the basic decision-making unit, may negotiate matters from wages and prices to schooling and pension funds. As defined by the Constitution, self-management agreements and social compacts are "arrived at at the level of BOALs among self-managing organs to coordinate and regulate socio-economic



and other relations"; they are binding only on those who have agreed to or acceded to them. See the "Constitutional System." For a detailed discussion of planning in Yugoslavia, see Rikard Stajner, "The System of Planning," Yugoslav Survey 12(February 1971):15-30.

<sup>12</sup>The best running commentary on the political crisis in this period is provided by Rusinow, The Yugoslav Experiment, especially chapters 7-8.

<sup>13</sup>For a concise review of Yugoslavia's policy toward the underdeveloped regions in the postwar period see, Mary B. Gregory, "Regional Economic Development in Yugoslavia," Soviet Studies 25(October 1973): 211-228. The group of Republics/Provinces classified as "Underdeveloped" has varied at times, but recently it has included Bosnia-Herzegovina, Macedonia, Montenegro, and Kosovo--who together account for 40% of the territory and 36% of the population.

<sup>14</sup>The World Bank study points out that in 1953 the average per capita income of the underdeveloped areas was two-thirds that of the developed areas; but by 1971 it had fallen to less than one-half, Development With Decentralization, p. 106. Other studies have indicated that the regional disparities in income accelerated under the early years of the Reform as well. See Nicholas R. Lang, "The Dialectics of Decentralization: Economic Reform and Regional Inequality in Yugoslavia," World Politics 27(April 1975):309-335.

<sup>15</sup>Both Lang, *Ibid.*, and Rusinow, The Yugoslav Experiment, point to the decline in Federal power as a major cause of the continued regional economic inequality.

<sup>16</sup>For an official view of the current LCY strategy see Ivan Laca, "The League of Communists of Yugoslavia," Yugoslav Survey 18 (May 1977). There are numerous commentaries on the rejuvenated role for the LCY; among the best are Rusinow, *Ibid.*, and Sharon Zukin, Beyond Marx and Tito: Theory and Practice in Yugoslav Socialism (London: Cambridge University Press, 1975), especially chapter 8.

<sup>17</sup>See "The Latest Changes in the Constitution of the SFRY," Yugoslav Survey 12(November 1971), and "The Constitutional System". The 1975 document is the "Draft Outline of a Common Policy for the Long-Term Development of Yugoslavia," Yugoslav Survey 16(November 1975):19-90.

<sup>18</sup>"Draft Outline," *Ibid.*, pp. 19 and 21.

<sup>19</sup>For a detailed discussion of Yugoslavia's intensive industrialization policy in the post-war period see, among others, Joze Moravec, 25 Years of the Yugoslav Economy (Belgrade: Interpres, 1970); and F.E. Ian Hamilton, Yugoslavia: Patterns of Economic Activity (London:

G. Bell and Sons, 1968), and the discussion of agricultural policy which follows.

<sup>20</sup>The figures are derived from the World Bank, Development With Decentralization, Table 2:7, p. 391. They are based on Yugoslavia's Gross Material Product which is based upon a concept of the Social Product. The Social Product does not include government wages and salaries and certain parts of private farmers production. It is estimated to be approximately 14% less than the measure of Gross National Product. For a further discussion see U.S. Department of Commerce, Overseas Business Reports, April 1978.

<sup>21</sup>The study was done by Stevo Vojnovic, a member of the Institute of Economics in Zagreb, "Natural Resources of Yugoslavia," Yugoslav Survey 16(May 1975):23-50.

<sup>22</sup>His comments are cited in Rudolph Bicancic, Turning Points in Economic Development (The Hague: Mouton and Company, 1972), p. 248. The basic outlines of the government's policy in this period may be found in Pavle Knezevic, "The Electricity Supply Industry, 1955-1973," Yugoslav Survey 16(May 1975):63-78. It is also necessary to note the import of "basic laws" which are passed by the Federal Assembly. They are officially described as "a federal statute containing principles and major rules of law in a field of legislation, leaving it to Republican, sometimes even to commune, legislatures to add more specific rules". The principles and rules of the basic law take effect without Republican implementation, however. See Stajner, "Planning".

<sup>23</sup>According to one source, in 1967 there were approximately 79 independent firms in this area. Joel Dirlam and James Plummer, An Introduction to the Yugoslav Economy (Columbus, Ohio: Charles Merrill Publishing, 1973), p. 127.

<sup>24</sup>Under the Plan total electric output was expected to double as was the consumption of oil. See Vladimir Pejovski, Yugoslav Investment Policy 1966-1970, (Beograd: Medunarodna Stampa-Interpres, 1967), p. 33.

<sup>25</sup>This excerpt is taken from Dirlam and Plummer, The Yugoslav Economy, p. 127. For a similar evaluation of the electrical energy situation see the World Bank, Development With Decentralization, p. 181. This study also notes the crucial importance of transmission facilities to Yugoslavia's power, because its plants have been located where the power resources are located, not close to areas of major consumption.



<sup>26</sup>These developments are discussed in Knezevic, "Electricity Industry," and the World Bank, Development With Decentralization, pp. 182-183 and Table 9:9. For a more specific analysis of the problems of coordination in the electrical industry see Dragutin Obradovic, a member of the Federal Secretariat of Economic Affairs, "Electricity Supply," Yugoslav Survey 11(May 1970):80-89.

<sup>27</sup>On this point see Dirlam and Plummer, The Yugoslav Economy, pp. 132-133, and World Bank, Development With Decentralization, p. 150.

<sup>28</sup>The citation is from "Industrial Development," in 25 Years of the Yugoslav Economy, p. 189. For similar assessments see U.S. Department of Commerce, Overseas Business Reports, November 1970, and Hamilton, Yugoslavia, who points out that the shortages were more frequent in the more developed Republics of Slovenia and Croatia.

<sup>29</sup>World Bank, Development With Decentralization, p. 11.

<sup>30</sup>See Knezevic, "Electricity Industry." who also notes that the rate of investment among Republics/Provinces fluctuated as well. For example, in 1972 the underdeveloped Republics of Bosnia-Herzegovina, Macedonia, and Montenegro received only 28% of the total investment for the generation and transmission of electricity, Table 14, p. 74.

<sup>31</sup>For a review of the investment picture in this period see Milivoje Vojacic, who is a Counselor for Economic Affairs, "Investment 1966-1975," Yugoslav Survey 18(May 1977):49-70.

<sup>32</sup>The severity of the drought may be seen in that total output of hydropower actually declined between 1972-1973 (see Table 13).

<sup>33</sup>For a more detailed discussion of these measures see OECD, Economic Survey, 1974, and Vojnovic, "Natural Resources". On the pricing policy see Stevo Govedarica, "Prices 1971-1974," Yugoslav Survey 16(August 1975):69-84.

<sup>34</sup>OECD, *Ibid.*, pp. 39-40.

<sup>35</sup>These councils are the politico-executive bodies of the respective Assemblies, which negotiate and formulate legislation for presentation to the Assemblies. See "Constitutional System."

<sup>36</sup>Knezevic, "Electricity Industry," p. 75.

<sup>37</sup>*Ibid.* The exchange rate at the time was approximately 17 dinars to the U.S. dollar.

<sup>38</sup> Ibid. Yugoslavia purportedly has enough uranium to fuel nuclear power plants, but the extent of its resources has never "officially" been estimated. Andrew Borowiec, Yugoslavia After Tito (New York: Praeger Publishers, 1977), p. 59. According to the OECD, as of January 1975, Yugoslavia had "reasonable assured" resources of 6.5 thousand tons, with 15.2 thousand tons of estimated additional "resources". Uranium, (Paris: OECD, 1975), pp. 22-23.

<sup>39</sup> For the full text see Yugoslav Survey 16(November 1975):19-90.

<sup>40</sup> Ibid., also see Vojnovic, "Natural Resources".

<sup>41</sup> "Draft Outline," Ibid., p. 50.

<sup>42</sup> Ibid. Hydropower was also not being ignored as its exploitation was to increase from 37% to 85% of total potential between 1975-1985.

<sup>43</sup> Ibid., p. 49.

<sup>44</sup> See, for example, the reports of the OECD in Economic Surveys for 1975 and 1976, which minimize the extent of effective government policy in the energy area.

<sup>45</sup> A number of works continue to cite these problems, including World Bank, Development With Decentralization; OECD, Economic Surveys for 1975-1977; and Vojacic, "Investment".

<sup>46</sup> The general outlines of the current Social Plan are discussed in OECD, Economic Survey, 1977, and Overseas Business Reports, April 1978.

<sup>47</sup> For a report of these recent events see Radio Free Europe Research (weekly) vol. 3, no. 51, December 1978. Yugoslavia's hydro-power facilities are primarily located in the central mountainous region where they are built on lakes, which are heavily dependent on rainfall to replenish their water supply.

<sup>48</sup> According to the OECD, Economic Survey, 1978, in 1977 fully one-half of the rise in industrial prices was attributable to the increase in the price of electric power.

<sup>49</sup> OECD, Economic Survey, 1977 and 1978.

<sup>50</sup> For one of the most recent reviews of the energy situation based on Yugoslav sources, see Radio Free Europe Research, December 1978.

<sup>51</sup>The comments are taken from a newspaper interview reported in Radio Free Europe Research, January 1979.

<sup>52</sup>The major staple crops in Yugoslavia have traditionally been cereals, especially wheat and maize, which are the basis of the rural diet. Animal products (meat and dairy products) have grown in importance in recent years but are generally more important to urban diets, and overall, meat consumption is relatively low. The following discussion of "food Policy" will pertain to policies which affect the production of these staples unless otherwise indicated.

<sup>53</sup>For a concise discussion of the Yugoslav government's agricultural policy since World War II see Dusan Miljkovic, "Yugoslav Socio-Economic Development, 1947-1972," Yugoslav Survey 15(February 1974):1-36.

<sup>54</sup>For a discussion of the government's collectivization policy and an explanation of why it was abandoned see Svetolok Popovic, Agricultural Policy in Yugoslavia (Beograd: Medunarodna Politika, 1964).

<sup>55</sup>There were approximately 2.6 million private holdings in Yugoslavia in 1971. See Table 15 for their composition by size. In 1969 they accounted for 80% of the maize crop, 70% of wheat, and 90% of livestock, Dirlam and Plummer, The Yugoslav Economy, p. 115.

<sup>56</sup>The number of socialized holdings is miniscule; in 1969, for example, out of 2,602,155 holdings, only 2,155 were socialized. Since then the trend has been to a further reduction in the number of socialized holdings while their average size has increased. See Table 16 and the World Bank, Development With Decentralization.

<sup>57</sup>It is interesting to note that in the 1960s the trend was toward a reduction in total amount of arable land. The sown arable area fell by 5% between 1961-1971; at the same time the area planted to cereals fell by 10%, while the area planted to industrial and fodder crops increased by 9%. Commercial crops are comparatively more important to the socialized sector (19% of acreage to 6% for private farmers), while food crops are more important to the private sector (70% of acreage to 59% for the socialized sector). Miljkovic, "Yugoslav Development".

<sup>58</sup>The central role of weather and the continued lack of irrigation facilities is discussed by Dzemal Drace, of the Federal Committee on Agriculture, in "Development of Agriculture," Yugoslav Survey 17 (February 1976):45-66. According to McDonald, Area Handbook for Yugoslavia, 45% of all agricultural land was susceptible to some degree of flooding or erosion in the late 1960s, pp. 345-346.

<sup>59</sup>On the major dimensions of government agricultural policy to 1965 see Popovic, Agricultural Policy in Yugoslavia; World Bank, Development With Decentralization; and Royal Institute of International Affairs, The Economic Reform. According to some sources the extensive fragmentation of private holdings remains the most serious impediment to the modernization of the agricultural sector. See Hamilton, Yugoslavia, pp. 170-172.

<sup>60</sup>Development With Decentralization, p. 152.

<sup>61</sup>Hamilton, Yugoslavia, gives a comparison of productivity levels at this time, pp. 370-371.

<sup>62</sup>For a more detailed discussion of the effects of the Reform on agriculture see Dzemaal Drace, "Agriculture 1961-1971," Yugoslav Survey 13(May 1972), and also Drace, "Development of Agriculture".

<sup>63</sup>In 1966, for example, the production levels achieved by grains were at levels which had been projected for 1970 under the Plan. These initial favorable results produced a number of optimistic projections for the future, such as that of Dzemaal Drace, then a member of the Federal Social Planning Office, who predicted that, as of 1968, imports of wheat and sugar would practically be discontinued. Between 1961-1967 imports of wheat had averaged 930,000 tons and imports of sugar 124,000 tons. See his "Agricultural Development," in Moravec, 25 Years of the Yugoslav Economy, pp. 235-271.

<sup>64</sup>For more detailed discussions of these developments in the socialized farms see Drace, "Agriculture 1961-1971," and World Bank, Development With Decentralization. For the affect of these trends on agriculture as a whole see Alica Wertheimer-Baletic, "Agricultural Population," Yugoslav Survey 19(May 1978):55-70.

<sup>65</sup>For the data on the decline in cooperation see World Bank, *Ibid.*, Table 7:11. The total number of cooperators declined by over 25% in the 1966-1970 period to a level of approximately 925,000. Cooperation takes the form of trade in inputs and outputs, provision of services by the social sector such as fertilizer, harvesting, marketing and credit, and the contracting of joint production.

<sup>66</sup>For data on the livestock heards see World Bank-Table 7:12, *Ibid.*, p. 441.

<sup>67</sup>Drace, "Agriculture 1961-1971," and OECD, Economic Survey 1973.

<sup>68</sup>For discussion of the Plan's agricultural goals see Vladimir Cvetkovic, "Exports and Imports of Major Food Articles," Yugoslav Survey 15(May 1974):89-96, and World Bank, Development With Decentralization.



<sup>69</sup> It is important to note that each private or social agricultural organization functions as an independent economic entity which freely selects its own production lines and plans its own development; accordingly, the tasks of Plans and policy has been to harmonize the interests of the social community as a whole with these individual interests. The main instruments employed have been price controls, subsidies, premiums, credits and investment funds, and attempts to establish reserves of certain crops. Drace, "Development of Agriculture".

<sup>70</sup> Development With Decentralization, p. 153.

<sup>71</sup> The compact is outlined in OECD, Economic Survey 1974, and Drace, "Development of Agriculture".

<sup>72</sup> For example, between 1973-1975, compensation and premiums to agriculture increased by over 400%.

<sup>73</sup> For a discussion of this aspect of the compact see World Bank, Development With Decentralization, pp. 159-160, which notes that in 1972 only 12% of total agricultural production was accounted for through cooperation.

<sup>74</sup> Both beef and pork shortages were experienced in a number of urban areas in these years. See Jovan Belic, "Stock-Breeding," Yugoslav Survey 15 (May 1974):55-68, and the OECD, Economic Survey 1974. On the growing export market influence on production see Cvetkovic, "Exports and Imports of Food Articles".

<sup>75</sup> These measures are discussed in the OECD, Economic Survey, 1975 and 1976. See also Stevo Govedarica, "The Economy in 1975," Yugoslav Survey 17 (May 1976):43-54.

<sup>76</sup> Among these studies are Vojacic, "Investment,"; Miljkovic, "Yugoslav Development,"; and Wertheimer-Baletic, "Agricultural Population," from whom the citation is taken, p. 70.

<sup>77</sup> For the data on these trends in land usage see, Sociajalisticka Federativa Republika Jugoslaviji Savezni Zavod Za Statistiku, Statisticki Godisnjak Jugoslavje, 1977 (Beograd: July 1977), table 108, p. 160.

<sup>78</sup> See "Draft Outline," especially pp. 52-55.

<sup>79</sup> Ibid., p. 52.

<sup>80</sup> The outline of the Plan is discussed in OECD, Economic Survey 1977.

<sup>81</sup> These recent developments in the food situation are reported in OECD, Economic Survey, 1977 and 1978; and Foreign Agriculture Reports, January 29, 1979,

<sup>82</sup> For data on these recent trends see Statisticki Godisnjak Jugoslavje, 1977, pp. 175-177, and United Nations, Food and Agriculture Organization, Production Yearbook, 1977 (Rome: UNFAO, 1978). These sources also indicate that the area under irrigation in Yugoslavia has declined absolutely in the 1970s.

<sup>83</sup> The complete address is reproduced in "The LCY in the Struggle for the Future Development of Yugoslavia," Yugoslav Survey 19 (August 1978), p. 21. Another example which continues to emphasize the export-orientation of agriculture and food production is Vladimir Cvetkovic, "Yugoslavia in World Food Production," Yugoslav Survey 19 (November 1978):39-50.

<sup>84</sup> These recent estimates are drawn from Statisticki Godisnjak Jugoslavje, 1977, and Population Reference Bureau, World Population Data Sheet, 1978.

<sup>85</sup> For the history on this point see Hondius, The Yugoslav Community of Nations. In 1971 the dominant ethnic groups by Republic/Province were: Croatia-79% Croats; Macedonia-69% Macedonians; Montenegro-67% Montenegrins; Slovenia-94% Slovenes; Serbia proper-89% Serbs; Kosovo-74% Albanians; Vojvodina-56% Serbs. Bosnia-Hercegovina at this time had 40% Moslems and 37% Serbs. Statisticki Godisnjak Jugoslavje, 1977.

<sup>86</sup> Over the ten year period 1961-1971, between the national census, for example, the number of persons who identified themselves as "Yugoslavs" declined from 1.7% of the population in 1961 to 1.3% in 1971; all others defined themselves by their ethnic origins. Statisticki Godisnjak Jugoslavje, 1977.

<sup>87</sup> McDonald, Area Handbook for Yugoslavia, pp. 63 and 71.

<sup>88</sup> For a more detailed discussion of these measures see Suzana Duric and Gordana Dragicevic, Women in Yugoslav Society and Economy (Beograd: Medunarodna Politika, 1965), and McDonald, *Ibid.*, pp. 69-71.

<sup>89</sup> Perhaps the best review of these policies' affects on population is Denison Rusinow, Population Review 1970: Yugoslavia (American Universities Field Staff Reports, Southeast Europe Series), volume 17, number 1, 1970. See also Miljkovic, "Yugoslav Development," who notes that between 1953-1971 the urban population grew from 22% to 35%. Additionally, over 1961-1970, the number of persons in rural households fell from a 5.4 to 4.4 average.



<sup>90</sup> Duric and Dragicevic, Women in Yugoslav Society, p. 27. The Conference was initially formed as a special forum of the SAWPY.

<sup>91</sup> On this point see Rusinow, Population Review, pp. 8-9; Duric and Dragicevic, Ibid.; and Milos Macura, "Population Policies in Socialist Countries of Europe," Population Studies 28(November 1975): 369-379. Macura emphasizes that demographic objectives had nothing to do with the Yugoslav government's initial commitment to family planning support.

<sup>92</sup> For the full text of the Resolution see "Federal Assembly Resolution on Family Planning," Yugoslav Survey 10(August 1969):103-106.

<sup>93</sup> Ibid., p. 103.

<sup>94</sup> Ibid., p. 105. Total legal abortions numbered about 276,000 in 1967 and live births 390,000. The regional impact of abortion varied widely; in 1966 abortions totaled 113% of live births in Serbia. The large majority of abortions were voluntary as well, in 1967 only about 23,000 abortions were performed for "health-care" reasons. Statisticki Godisnjak Jugoslavije, 1977.

<sup>95</sup> On the increasing economic costs of abortion see Ljubica Basta, "Maternity Care and Health Services for Women," Yugoslav Survey 11 (November 1970):87-92, and Dusan Breznik, "Demographic Trends in Yugoslavia," Yugoslav Survey 11(May 1970):1-14.

<sup>96</sup> "Resolution on Family Planning," p. 105.

<sup>97</sup> Ibid., p. 103.

<sup>98</sup> On the problems with implementation at this time see Rusinow, Population Review, and Population Reference Bureau, World Population Growth and Response 1965-1975.

<sup>99</sup> See the two studies by Ljubica Basta, Head of the Maternity and Child Care Services, "The Health and Health Care of Children and Young People," Yugoslav Survey 15(February 1974):67-80, and "Health Care for Women 1968-1976," Yugoslav Survey 19(November 1978):99-108.

<sup>100</sup> Rusinow, The Yugoslav Experiment, chapter 8.

<sup>101</sup> "Draft Outline," p. 73.

<sup>102</sup> This is the opinion of Ljubica Basta in "Health Services for Women".

<sup>103</sup>For more detailed discussion of the causes for migration see George W. Hoffman and Ronald Hatchett, "The Impact of Regional Development Policy on Population Distribution in Yugoslavia and Bulgaria," in Population and Migration Trends in Eastern Europe, ed. Huey Louis Kostanik (Boulder, Colorado: Westview Press, 1977):99-124, and Rusinow, Population Review.

<sup>104</sup>Economic Survey, 1973.

<sup>105</sup>For a more detailed description of these specific measures see Ivo Baucic, "Regional Differences in Yugoslav External Migration," in Kostanik, Population and Migration Trends in Eastern Europe, pp. 217-243, and OECD, Economic Survey, Ibid.

<sup>106</sup>Figures are from Bernard Kayser, "European Migration: The New Pattern," International Migration Review 11(Summer 1977):232-240.

<sup>107</sup>See Gordana Todorovic, "Projection of the Yugoslav Population for 1970-2000," Yugoslav Survey 16(May 1975):11-20.

<sup>108</sup>Ibid., p. 12.

<sup>109</sup>"Draft Outline," especially pp. 73-74. Todorovic, Ibid., also proposes a migration policy as an essential need, pp. 18-19.

<sup>110</sup>According to one source, the results of the 1971 Census revealed that 83% of those who had migrated between 1947-1971 relocated either in the same commune or Republic; only 16% of those migrating resettled in another Republic. Hoffman and Hatchett, "Population Distribution in Yugoslavia".

<sup>111</sup>The status of the "ethnic" situation is subject to much dispute among students of Yugoslavia. For examples of two recent studies which arrive at almost diametrically opposed conclusions on the matter, see John F. Besemeres, "The Demographic Factor in Inter-Ethnic Relations in Yugoslavia," Southeastern Europe 4(1977):1-31, who argues that the ethnic issue will be an incendiary factor in the future. Compare his conclusions with George Klein, "Worker's Self-Management and the Politics of Ethnic Nationalism in Yugoslavia," Nationalities Papers 5(1977): 1-21, who suggests that Yugoslav national institutions have overridden much of the inter-ethnic conflicts--with the resolution of the 1971 Croatian crisis being a case in point.

## Chapter V

<sup>1</sup>There are a multitude of works which discuss the policy-making process in the U.S. and the varying roles which the Federal government plays. Three of the most notable are: Charles O. Jones, An Introduction to the Study of Public Policy (Belmont, Calif.: Wadsworth Publishing, 1970); Charles Lindblom, The Policy-making Process (Englewood Cliffs, New Jersey, Prentice Hall, 1968); and L.L. Wade, The Elements of Public Policy (Columbus, Ohio: Charles Merrill Publishing Company, 1972).

<sup>2</sup>See the Ford Foundation, A Time to Choose-America's Energy Future (Cambridge, Mass.: Ballinger, 1974), chapter 4. On the increased role of oil see Richard N. Gardner, ed., The World Food and Energy Crisis (Institute on Man and Science, 1974). The relative cheapness of energy was a major factor in increased utilization, as, in real terms, energy prices actually declined between 1950 and 1973.

<sup>3</sup>Ford Foundation, A Time to Choose, was one of the first to challenge this position, see chapter 6. More recently, the President's Council on Environmental Quality has reported that growth in energy consumption could be cut to zero without affecting economic growth, Boston Globe, 21 February 1979.

<sup>4</sup>See Council of Economic Advisors, Economic Report of the President, 1978. Consumption of oil has grown at a higher rate since 1965: at 5% between 1965-1970, and at 5.6% between 1970-1973. These are among the findings of the Federal Energy Administration, Project Independence Report, 1974.

<sup>5</sup>Interestingly, this was not an unexpected occurrence as a number of studies in the early 1960s had forecast that U.S. oil production would peak in the late 1960s or early 1970s. Perhaps the most notable of these studies is that of M. King Hubbert, Energy Resources (Washington, D.C.: National Academy of Sciences, National Research Council, Publication 1000-D, 1962).

<sup>6</sup>On the domestic natural gas situation in the early 1970s see Federal Power Commission, A Realistic View of US Natural Gas Supply (Staff Report, Bureau of Natural Gas, December 1974). This generally bleak assessment of the gas situation has not improved in recent years. According to one Department of Energy official, the supply of natural gas will not measurably increase by 1990, Boston Globe, 18 April 1979.

<sup>7</sup>By most accounts the natural gas shortage was the primary factor behind increased oil demand. For a concise account see Richard B. Mancke, Squeaking By (US Energy Policy Since the Embargo) (New York: Columbia University Press, 1976). According to his data, the demand

for crude oil grew 6% annually between 1970-1973, nearly twice the pre-1970 level, p. 7.

<sup>8</sup>One fact which the energy crisis has revealed is how little knowledge the federal government has of the extent of the country's energy resources, even those which it has jurisdiction over. By most accounts over one-half of the country's remaining oil and gas reserves, 40% of coal and uranium reserves, 80% of oil shale, and 60% of geothermal resources are located on federally held lands. The government's knowledge of the extent of these resources is inadequate, however, particularly if it is to manage the exploitation of these resources in the future. See, for example, the assessments of Mancke, *Ibid.*, p. 57 and the Ford Foundation, A Time to Choose, p. 271.

<sup>9</sup>Coal is now used primarily by utilities and the steel industry which account for approximately 90% of demand. Oil is used primarily for transportation (54%) and heating (18%); another 18% goes to industrial uses and 10% to utilities. The serious limits of coal's substitutability are discussed in President's Office of Emergency Preparedness, The Potential for Energy Conservation: Fuel Substitution, 1973. For a more recent account, see the Boston Globe, "The Return of Coal: Greatly Exaggerated," 5 July 1979.

<sup>10</sup>See A Time to Choose, which observes that: "Estimating potential energy resources is far from an exact science and is very much subject to the views and judgments of specialists interpreting geological, technological, and economic data." Appendix D, p. 477.

<sup>11</sup>Data is drawn from World Oil, February 15, 1979.

<sup>12</sup>Boston Globe, 5 July 1979.

<sup>13</sup>According to data supplied by Edison Electric Institute, Boston Globe, *Ibid.* Some informed observers in this field argue that we have already reached the realistic limits of hydropower expansion. See Bernard I. Spinrad, "The Case for Nuclear Energy," in Perspectives on Energy, eds. Lon C. Ruedisili and Morris W. Firebaugh (New York: Oxford University Press, 1975), pp. 183-195.

<sup>14</sup>Data is drawn from Energy Policy (Washington, D.C.: Congressional Quarterly Incorporated, April 1979), pp. 106-107. On the current state of the nuclear industry see the New York Times, 8 April 1979, p. 1F, and the Boston Globe, 8 July 1979.

<sup>15</sup>For an authoritative history of U.S. domestic oil policy see John M. Blair, The Control of Oil (New York: Pantheon Books, 1976), especially chapters 7-8; for its policy in relation to natural gas see Continuing Energy Crisis in America (Washington, D.C.: Congressional Quarterly Incorporated, 1975), pp. 69-75.



<sup>16</sup> Cited in U.S. Congress, Senate, Committee on Finance, World Oil Developments and U.S. Oil Import Policies, 93rd Cong., 1st sess., December 12, 1973, p. 70.

<sup>17</sup> For a more detailed discussion of the origins and operation of the MOIP, see World Oil Developments, Ibid., pp. 51-70, and Blair, The Control of Oil.

<sup>18</sup> This increase in imports was also spurred by a Department of Interior announcement in 1972 which stated that the U.S.'s surplus crude oil producing capacity, which had existed since World War II due to prorationing, had been exhausted. This indicated that increased domestic production would now have to come from new discoveries. See Blair, Ibid., pp. 165-169.

<sup>19</sup> For a more detailed discussion of these programs, which instituted direct government control over oil prices, see Project Independence Report, pp. 11-15.

<sup>20</sup> New York Times, 5 June 1971, this constituted the first major address by a President on energy and gave all of its meaningful emphasis to increases in energy supplies.

<sup>21</sup> Based on data supplied in U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the U.S. 1978, Table 1036, p. 621. On the history of federally funded energy research and development up to this time., see John E. Tilton, U.S. Energy Research and Development Policy (Washington, D.C.: Resources for the Future, 1974). Also see Ford Foundation, A Time to Choose, chapter 12.

<sup>22</sup> For the text of the message see Weekly Compilation of Presidential Documents, April 23, 1973, pp. 389-406.

<sup>23</sup> According to one source, only about 7% of total petroleum requirements originated in the Middle East at this time. Robert Engler, The Brotherhood of Oil (Chicago: The University of Chicago Press, 1977), p. 3. The magnitude of the oil cutoff at this time is still hotly debated, as is the role of the international oil companies in effecting the embargo. For one of the better analyses on these points see Blair, The Control of Oil, pp. 261-268.

<sup>24</sup> New York Times, 8 November 1973.

<sup>25</sup> His comments are reported in the U.S. Department of State Bulletin, February 4, 1974, p. 111.

<sup>26</sup> See his energy message to Congress, January 23, 1974, in Weekly Compilation of Presidential Documents, January 28, 1974, p. 73.

<sup>27</sup>Project Independence Report, pp. 11-15.

<sup>28</sup>Ibid. This project entailed a truly massive expansion in nuclear power. Nuclear accounted for only 1% of total energy consumption in 1973, a level that would increase ten-fold by 1980 to 9%. In addition, nuclear accounted for only 7% of total electric generating capacity in 1974 and 4% of all electricity generated; under this Plan by 1985 its share would more than triple to 22% of generating capacity.

<sup>29</sup>For the text of these bills see, Congressional Quarterly, Energy Policy, pp. 10-a. Under the Emergency Petroleum Allocation Act the administration employed a price strategy which it would persistently follow in the future. By allowing the price of both "old" and "new" domestic oil to rise, it hoped it would create sufficient financial incentive for increased production.

<sup>30</sup>Congressional Quarterly, Continuing Energy Crisis in America, pp. 21-33. Overall the decline in total energy demand was only slight, falling at 0.1% annually in 1973-1976.

<sup>31</sup>Ibid., see the report of William Simon's comments, p. 13.

<sup>32</sup>Ibid., p. 6. For an example of Ford's comments see "The President's Remarks on Signing the Energy Reorganization Act of 1974," Weekly Compilation of Presidential Documents, October 14, 1974, p. 1271.

<sup>33</sup>The composite price approach had been introduced as a means to control the average--weighted--price which U.S. refiners paid for each barrel of oil, whether it was of domestic or foreign origin. Since foreign oil was significantly more costly, the system effectively subsidized increased imports at less than their actual costs. For a fuller explanation see Blair, The Control of Oil, p. 360.

<sup>34</sup>Public Law 94-163, reprinted in Congressional Quarterly, Energy Policy, pp. 42-a to 45-a.

<sup>35</sup>Weekly Compilation of Presidential Documents, December 25, 1975, pp. 1391-1392.

<sup>36</sup>Ibid.

<sup>37</sup>For a more detailed discussion of these actions see Congressional Quarterly, Energy Policy, pp. 61-a to 71-a. Since its inception the FPC had regulatory jurisdiction only over the price of interstate gas, gas distributed in the intrastate market was unregulated. In 1973, interstate sales were 53.5% of national production and the share of sales in the interstate market was declining as more was allotted to the unregulated intrastate area where prices were considerably higher.



<sup>38</sup>For examples see U.S. Congress, Senate, Committee on Government Operations, Staff Study of the Oversight and Efficiency of Executive Agencies With Respect to the Petroleum Industry, Especially as it Relates to Recent Fuel Shortages, 93rd Cong., 1st Sess., November 8, 1973, pp. 22-23, which notes how pricing policies in the early 1970s contributed to fuel shortages; also Project Independence Report, which argues that price controls had discouraged oil exploration and production, pp. II-19; and the Economic Report of the President, 1978, which argues that government policies continued to stimulate demand even after the oil embargo, p. 7. For an outside critique see the OECD, World Energy Outlook (Paris: OECD, 1977), which reflects the European view that the most important obstacle to energy conservation and reductions in consumption in the U.S. is the artificially low energy prices.

<sup>39</sup>See Table 20; also Congressional Quarterly, Energy Policy, p. 5-a. Proved reserves of oil fell by about 7.5% during 1973-1975.

<sup>40</sup>New York Times, 19 February 1978.

<sup>41</sup>The upsurge in demand has been characterized by an increased dependence on oil to meet total energy needs. About one-half of all energy was provided by oil in 1978, up from 47% in 1972. Overall, oil and gas supplied 67% of the country's energy needs in 1978, down from 71% in 1973. World Oil, February 15, 1979, and Congressional Quarterly, Energy Policy, p. 1.

<sup>42</sup>For example, in the first quarter of 1979 gasoline consumption was up 5.4%, oil consumption was up 4.1% for January-February, and imports of crude oil were up 8.7% for the first quarter. Drawn from the Boston Globe, 17 March 1979 and 3 May 1979; and the New York Times, 1 April 1979.

<sup>43</sup>See World Oil, February 15, 1979. These estimates are based on continued bleak prospects for domestic production increases. The 1979 forecast, for example, is based on a 9.9% growth in output from Alaska and a 1.2% fall in output from the lower 48 states, continuing a long term downward trend.

<sup>44</sup>Data is drawn from World Oil, Ibid., the Boston Globe, 30 April 1979, and the New York Times, 17 June 1979. The slow pace and poor results of exploration on the outer continental shelf is one reason for these growing doubts. Off-shore oil production actually declined in 1976-1978 by 13% and, by the end of 1978, only 13 of the 93 leased tracts on the OCS had been drilled on--with poor results. According to World Oil, the "Results of the first year of drilling on the US east coast have failed to justify the great hopes held for this region as a new North American exploration frontier."

<sup>45</sup>"National Energy Program," Weekly Compilation of Presidential Documents, April 25, 1977, pp. 563-572.

<sup>46</sup>Ibid.

<sup>47</sup>For provisions of the bill see Congressional Quarterly, Energy Policy, pp. 45-48.

<sup>48</sup>Energy Policy, Ibid., p. 5.

<sup>49</sup>Ibid., pp. 45-48.

<sup>50</sup>According to industry sources, the primary cause of the decline was the ambiguity of the new natural gas law. New York Times, 6 April 1979, and Petroleum Independent, April 1979.

<sup>51</sup>Ibid., the act would extend federal controls over gas prices to intrastate as well as interstate transactions, an area which has previously been unregulated and left to state control.

<sup>52</sup>New York Times, 8 February 1979 and 6 April 1979. Also Energy Policy, p. 55. Indeed, the vulnerability to OPEC had grown drastically since 1973. According to Frank Breese, editor of the National Petroleum News, by early 1979 OPEC was supplying 72.5% of all U.S. oil imports. - Boston Globe, 5 March 1979.

<sup>53</sup>New York Times, 8 February 1979, and the Boston Globe, 22 March 1979.

<sup>54</sup>Weekly Compilation of Presidential Documents, April 9, 1979, p. 610. Phased de-control was to automatically occur under the provisions of the Energy Policy and Conservation Act of 1975, beginning April 30, 1979. Carter had the authority to extend the controls if he desired.

<sup>55</sup>The affects of de-control on production have been hotly disputed. According to a 1978 Department of Energy Study, for example, de-control would "result in a negligible increase in production". Boston Globe, 12 April 1978. For other criticisms of de-control see the New York Times 22 April 1979 and 1 June 1979, and the Boston Globe, 1 June 1979.

<sup>56</sup>Data is drawn from United Nations, Demographic Yearbook, 1978 (New York: UN, 1979).

<sup>57</sup>Weekly Compilation of Presidential Documents, June 23, 1959.

<sup>58</sup>(Washington, D.C.: National Academy of Sciences, 1963).

<sup>59</sup>(Washington, D.C.: National Academy of Sciences, 1965).

<sup>60</sup>The message is reproduced in U.S. Department of State Bulletin, January 8, 1965. The citation is from U.S. Department of State Bulletin, January 31, 1966, p. 4321.

<sup>61</sup>For a detailed discussion of the U.S.'s international activities in this period see Philander P. Claxton, Jr., Special Assistant for Population Matters to the Secretary of State, "United States Population Policy--Origins and Development," Department of State Bulletin, September 20, 1970, pp. 317-327. See also Phyllis T. Piotrow, World Population Crisis: The United States Response (New York: Praeger Publishers, 1973).

<sup>62</sup>Claxton, *Ibid.*, and Peter Bachrach and Elihu Bergman, Power and Choice (The Formulation of American Population Policy) (Lexington, Mass.: D.C. Heath, 1973), p. 50.

<sup>63</sup>New York Times, 2 March 1966.

<sup>64</sup>On the diversity of groups which supported federal funding of family planning at this time see Frederick S. Jaffe and Alan F. Guttmacher, "Family Planning Programs in the United States," Demography 5(1968):910-923.

<sup>65</sup>On the Commission's recommendations see The Commission on Population Growth and the American Future, Aspects of Population Growth Policy, Research Reports, volume 6, edited by Robert Parker and Charles F. Westoff (Washington, D.C.: Government Printing Office, 1972).

<sup>66</sup>U.S. Congress, Senate, Committee on Human Resources, Family Planning Services and Population Research Act Extension of 1978, Hearings Before the Subcommittee on Child and Human Development, 95th Cong., 2nd Sess., February 24, 1978.

<sup>67</sup>Weekly Compilation of Presidential Documents, July 18, 1969.

<sup>68</sup>*Ibid.*

<sup>69</sup>Public Law 91-572. The Act authorized a total of \$382 million for family planning services and population research over the next three years. The program was specifically targeted toward the population of low-income families who had a high incidence of unwanted pregnancies and unequal access to health care. The specified target groups were defined as women with low and marginal incomes, and teenagers. Family Planning Services and Population Research Act Extension, p. 812.

<sup>70</sup> See Joy G. Dryfoos, "The United States National Family Planning Program 1968-1974," Studies in Family Planning 7(March 1976):80-92.

<sup>71</sup> See Table 22; and also U.S. Congress, Senate, Committee on Labor and Public Welfare, Report of the Secretary of Health, Education, and Welfare, Submitting Five Year Plan for Family Planning Services and Population Research Programs, 91st Cong., 1st Sess., October 12, 1971.

<sup>72</sup> Population and the American Future (New York: Signet Books, 1972).

<sup>73</sup> Ibid, p. 172. See also the assessments of Bachrach and Bergman, Power and Choice, p. 12, and Charles F. Westoff, "Recent Developments in Population Growth Policy in the United States," in Toward the End of Growth, ed. Westoff (Englewood, New Jersey: Prentice Hall, 1973), pp. 161-177.

<sup>74</sup> See the appraisal of Westoff, Ibid., who was executive director of the Population Commission's staff.

<sup>75</sup> New York Times, 6 May 1972.

<sup>76</sup> Testimony of Dr. Henry Simmons, Deputy Assistant Secretary for Health and Scientific Affairs, before the Special Subcommittee on Human Resources, Committee of Labor and Public Welfare, U.S. Senate, May 8, 1973.

<sup>77</sup> The Nixon administration had actually impounded \$30 million which had been appropriated for family planning in 1973 as well. Under the administration, the 1970 Act had not come close to being fully implemented. By 1973 only \$261 million of the \$382 million authorized under the Act had been actually appropriated. See Elihu Bergman et al., Population Policy in the American States (Lexington, Mass.: D.C. Heath, 1974), p. 8, and Family Planning Services and Population Research Act Extension, p. 811.

<sup>78</sup> See Phillips Cutright and Frederick S. Jaffe, Impact of Family Planning Programs on Fertility (The U.S. Experience) (New York: Praeger Publishers, 1977).

<sup>79</sup> U.S. Department of Health, Education, and Welfare, Progress Report: Five Year Plan for Family Planning Services (Washington, D.C.: Government Printing Office, 1974); also Family Planning Services and Population Research Act Extension, p. 811.

<sup>80</sup> Cutright and Jaffe, Impact of Family Planning Programs, p. 5. This aspect of the family planning program had grown more obvious under the Nixon strategy, which essentially limited services to welfare



recipients. On this point see Bergman et al., Population Policy in the American States, and Thomas B. Littlewood, The Politics of Population Control (Notre Dame: University of Notre Dame Press, 1977).

<sup>81</sup> See Littlewood, *Ibid.*, for example, who notes that the position of some Nixon administration officials--such as that of Dr. Louis Hellman, the first Deputy Assistant Secretary of the Office of Population--was that the 1970 Act would slow population growth and reduce the birth rate, p. 60.

<sup>82</sup> Population Reference Bureau, World Population Growth and Response 1965-1975, p. 191. For a similar assessment see Westoff, "Population Growth Policy in the United States," pp. 161-177.

<sup>83</sup> David S. North, "The Growing Importance of Immigration to Population Studies," Policy Studies Journal 6(Winter 1977):200-208. He notes that in 1976 legal immigration was 400,000, while estimates of illegal immigration totaled 800,000--total population growth in 1976 was 2 million.

<sup>84</sup> U.S. Department of Health, Education, and Welfare, Report to the President of the National Commission for the Observance of World Population Year (Washington, D.C.: Government Printing Office, 1975).

<sup>85</sup> Comments of Ambassador Charles W. Yost, reported in the Department of State Bulletin, August 24, 1970, p. 231. Perhaps the clearest example of the U.S.'s contrasting national and international views on the population issue occurred at the World Population Conference in 1974, where it was the primary proponent of the Third World countries adopting growth targets, while including itself among those nations satisfied with their own population growth rates. See Marcus Franda, Reaction to America at Bucharest (American Universities Field Staff Reports, Southeast Europe Series), volume 21, number 5, 1974.

<sup>86</sup> Department of State Bulletin, February 21, 1972.

<sup>87</sup> Data drawn from Population Reference Bureau, World Population Growth and Response 1965-1975, and Family Planning Services and Population Research Extension Act, p. 79.

<sup>88</sup> See Congressional Quarterly Incorporated, Congressional Quarterly Almanac, 1977, p. 453, and 1978, pp. 609-610. Under this impetus family planning programs resumed their growth, serving 4.1 million women in 1977, and 4.5 million in 1978--levels which were still far below the goals of the program. Family Planning Services and Population Research Act Extension, p. 812.

<sup>89</sup> See the report in Science Magazine, May 11, 1979.



<sup>90</sup>Department of State Bulletin, March 1979, p. 38.

<sup>91</sup>The most recent indications are that the U.S. population growth rate is slowing more than was expected only a few years ago. According to Dr. Charles Westoff, who is the head of the Princeton University Office of Population Research, the U.S. population will peak at about 253 million in 2015, which is well below the level of 300 million forecast for the year 2000 only a few years before, The New York Times, 3 December 1978.

<sup>92</sup>In the food area, the primary commodities which policy has been directed at controlling have been feed grains (corn, sorghum, barley, oats), wheat, soybeans, some dairy products, sugar, and rice.

<sup>93</sup>For a fuller discussion of developments in the agricultural sector in this period see Willard W. Cochrane and Mary E. Ryan, American Farm Policy, 1948-1973 (Minneapolis: University of Minnesota Press, 1976); also Michael Perelman, Farming for Profit in a Hungry World (Capital and the Crisis in Agriculture) (Montclair, New Jersey, Allanheld, Osmun, and Company, 1977).

<sup>94</sup>Data is drawn from U.S. Department of Agriculture, Agricultural Situation (monthly publication), April 1979. According to the USDA, in 1974 5.5% of all farms controlled over 50% of all farmland. See USDA, Our Land and Water Resources, 1974. For a more detailed discussion of these recent developments in agriculture see American Enterprise Institute, Food and Agricultural Policy (Washington, D.C.: American Enterprise Institute, 1977).

<sup>95</sup>Congressional Quarterly Almanac, 1964, p. 887.

<sup>96</sup>Cochrane and Ryan, American Farm Policy, pp. 320-349; also Charles L. Schultz, The Distribution of Farm Subsidies (Washington, D.C.: The Brookings Institution, 1971).

<sup>97</sup>For example, the main goal of the Commodity Distribution Program when it was inaugurated was ". . . to find constructive uses for the part of U.S. food production that could not move through commercial channels at fair prices to farmers."; the first purpose listed for the Food Stamp Program in the 1964 Act was ". . . to strengthen the agricultural economy. . .", Cochrane and Ryan, *Ibid.*, discuss the genesis of these programs, pp. 280-294.

<sup>98</sup>U.S. Congress, Senate, Food Stamp Act of 1964, S. Rept. 1124, 88th Cong., 2nd Sess., June 29, 1964. For an assessment of how effective the program was in reaching the poor at this time see U.S. Department of Agriculture, Farm Index (monthly publication), May 1978.

<sup>99</sup> Agricultural Trade Development and Assistance Act of 1954. Title I was the core of the program; it allowed the sale of surplus commodities to "friendly nations"; Title II allowed donations and grants of food to needy governments and persons.

<sup>100</sup> Ibid.

<sup>101</sup> The program was anything but a food-aid program in this period, however, the commodities shipped under PL 480 included feed grains, wheat, cotton and cotton seed oil, tobacco, rice, and dairy products. In addition, in the first decade only about 17.5% of the commodities shipped under Title II--were actual donations of aid. See Cochrane and Ryan, American Farm Policy, p. 269., and U.S. Department of Agriculture, Economic Research Service, 12 Years of Achievement Under Public Law 480 (Foreign 202, November 1967).

<sup>102</sup> U.S. Congress, House, A War on Hunger, Message from the President of the United States, 89th Cong., 2nd Sess., Document 378, 1966, p. 3-4.

<sup>103</sup> The volume of food exports under PL 480 were also reduced drastically by the end of the decade, falling from 18 million tons in 1960 to 11 million by 1970. This trend presaged the rapid commercialization of food exports which was to occur in the first half of the 1970s, depleting the program of much of its resources.

<sup>104</sup> Agricultural Act of 1970, in Congressional Quarterly Almanac, 1970.

<sup>105</sup> Cochrane and Ryan, American Farm Policy, pp. 62-81.

<sup>106</sup> Economic Report of the President, 1979, p. 296.

<sup>107</sup> Committee for Economic Development, A New U.S. Farm Policy for Changing World Food Needs (New York: Committee for Economic Development, 1974), p. 23.

<sup>108</sup> Agriculture and Consumer Protection Act of 1973 PL 86). Crop-land withheld from production fell from 62 million acres to 2.4 million acres in 1975. See Luther G. Tweeten, "Agricultural Policy: A Review of Legislation, Programs, and Policy," in Food and Agricultural Policy, American Enterprise Institute, p. 45.

<sup>109</sup> See D. Gale Johnson, "Food Production and Marketing: A Review of Economic Developments in Agriculture," in Food and Agricultural Policy, Ibid., p. 17.

<sup>110</sup> This is the opinion of the President's Council of Economic Advisors in Economic Report of the President, 1978, p. 196.

<sup>111</sup> See J. Dawson Ahalt, "Trends in Food Consumption, Prices and Expenditures," in Food and Agricultural Policy, p. 122.

<sup>112</sup> Ibid.

<sup>113</sup> U.S. Congress, Senate, Select Committee on Nutrition and Human Needs, Food Price Changes 1973-1974 and Nutritional Status, Part I, 93rd Cong., 2nd Sess., 1974, pp. 12-14.

<sup>114</sup> Food Stamp Act Amendments (PL 454 and 671); data is drawn from U.S. Department of Agriculture, National Food Situation (monthly publication), June 1977, p. 11.

<sup>115</sup> See, for example, Hunger U.S.A. Revisited, A Report of the Citizen's Board of Inquiry into Hunger and Malnutrition in the United States, 1972. This Report estimated that in the early 1970s there were about 11 million poor people receiving no help whatsoever from any federal food program. See also Ahalt, "Trends in Food Consumption,"; USDA, Farm Index, May 1978; and National Food Situation, February issues for 1974-1976.

<sup>116</sup> On expenditures in the PL 480 program in this period see Department of State Bulletin, March 2, 1970, February 21, 1972, and February 19, 1973. Also American Enterprise Institute, Food and Agricultural Policy.

<sup>117</sup> The value of U.S. agricultural exports has reached record levels for the past three years. On recent agricultural performance see USDA, Agricultural Situation, various issues 1978-1979, and USDA, Agricultural Outlook (monthly publication), March 1979.

<sup>118</sup> The Act is expected to cost \$12-\$13 billion yearly, with roughly half the costs attributable to the Food Stamp Program. For a detailed review of its provisions see OECD, Review of Agricultural Policies, 1977 (Paris: OECD, 1978).

<sup>119</sup> The situation for 1979 appears to be relatively unchanged as, by April, more than 11.2 million acres had been removed from production under these provisions. New York Times, 22 April 1979.

<sup>120</sup> See USDA, Agricultural Outlook, May 1979; Farm Index, May 1979; and the Boston Globe, 29 May 1979.

<sup>121</sup> The enforcement of cost ceilings has proven difficult, however; for fiscal 1979 it was expected that nearly 3.5 million clients would be added to the program, requiring an increase in funding well beyond the limit imposed by the 1977 Act. In addition, Carter's 1980 budget estimates program costs at \$6.9 billion, a 12% increase over the Act's original ceiling. See Agricultural Outlook, Ibid., and the

Congressional Quarterly Almanac, April 14, 1979, p. 2.

<sup>122</sup> Although the program increasingly emphasized aid for needy countries in the following years, its funding did not continue to increase. Appropriations fell to \$805 million by fiscal 1979. Congressional Quarterly Almanac, 1978, p. 146.

<sup>123</sup> Department of State Bulletin, March 1979, p. 25. The Commission issued its final report in September of 1979, but it is still unavailable as of this writing.

## Chapter VI

<sup>1</sup> For a more extended discussion of these themes, see Chapter 1.

<sup>2</sup> We believe that such is still generally the case in these four countries, but it is perhaps most true of the United States. For example, in their recent heralded study of the U.S.'s energy situation, Energy Future, Robert Stobaugh and Daniel Yergin still find it necessary to devote considerable attention to the point that the energy issue is not just a passing crisis, see especially chapter 1.

<sup>3</sup> One does not have to look too far to conclude that there is still a dearth of international cooperation in relation to these so-called "world" issues. At the recent fifth quadrennial meeting of the United Nations Conference on Trade and Development, for example, the question of whether or not there was truly a "world energy crisis" was a major topic of debate on which no agreement could be reached. See the report in the New York Times, 4 June 1979; for a fuller discussion see the report on the Conference in the Interdependent, published by the United Nations Association of the United States, July-August 1979.

<sup>4</sup> There have been two primary lines of criticism of the "global limits" in this area: those who have attacked the logic of its argument, such as H.S.D. Cole, ed., Models of Doom: A Critique of the Limits to Growth (New York: Universe Books, 1973), and John Maddox, The Doomsday Syndrome (London: MacMillan, 1972); and those which combat its argument with buoyant messages about technological salvation, such as Herman Kahn's works in this area or Richard Meier, Science and Economic Development (Cambridge, Mass.: Massachusetts of Technology Press, 1966).

<sup>5</sup> Among the most popular works of this ilk are those of Garrett Hardin, Exploring New Ethics for Survival. Others include those of Jay Forrester, "Hunger: The Clock Ticks On," Boston Globe, 24 November 1974, and William Paddock, "A Modest Proposal," Forbes Magazine, December 1, 1975. All have advocated applying the military concept of "triage" to decisions on who will receive food aid, thus relegating



those people and countries who would "least" benefit from food aid to starvation.

<sup>6</sup>For two of the most recent examples of this position see Erik P. Eckhom, Losing Ground (Environmental Stress and World Food Prospects), and Reid Bryson and Thomas Murray, Climates of Hunger (Madison: University of Wisconsin Press, 1977).

<sup>7</sup>For an example of this position, which holds that environmental and ecological "costs" are not subject to cost/benefit analysis due to their unique character see, Eric Ashby, Reconciling Man With the Environment (Stanford: Stanford University Press, 1978).

<sup>8</sup>This view of our ecological problems received perhaps its most widespread circulation in Barry Commoner, The Closing Circle (New York: Alfred Knopf, 1971).

<sup>9</sup>The tendency to see authoritarian solutions to our world "crisis" achieved its greatest notoriety in Heilbroner, An Inquiry into the Human Prospect. Similar forecasts may also be found in Hardin, Exploring New Ethics for Survival, and William Ophuls, Ecology and the Politics of Scarcity (San Francisco: W.H. Freeman, 1977).

<sup>10</sup>Power and Choice, p. 26.

<sup>11</sup>Two of the better works which have explored these questions are: Barry Weisberg, Beyond Repair: The Ecology of Capitalism (Boston: Beacon Press, 1971), and William Leiss, The Limits to Satisfaction: An Essay on the Problem of Needs and Commodities (Toronto: University of Toronto Press, 1976).

<sup>12</sup>This theme has been most fully, and capably, explored in William Leiss, The Domination of Nature (Boston: Beacon Press, 1974).

<sup>13</sup>The question of who is more responsible for the current world "crises" has indeed been a major obstruction to greater international agreement and cooperation on these issues. This question is explored in Leiss, The Limits to Satisfaction.

<sup>14</sup>Examples of works in this area which neglect the implementation aspect of their "solutions" include some of the most popular, such as Rene Dubos, So Human an Animal (New York: Scribner's, 1968); E.F. Schumacher, Small is Beautiful (New York: Harper and Row, 1973); Paul and Anne Ehrlich, Population, Resources, Environment (San Francisco: W.H. Freeman, 1972). One who has begun to explore this neglected dimension of the ecological perspective is Ashby, Reconciling Man With the Environment.



<sup>15</sup>The unwillingness or inability to deal with these "political" problems presented by the current crises is, perhaps, an important reason why the tendency in many of these works is to foresee an increase in authoritarianism or, at the least, significant increases in state power as the most likely path in the future. More importantly, it indicates a trust in the benevolence of the use of state power which requires more thorough investigation. Hardin, Exploring New Ethics for Survival, is perhaps the clearest example of this tendency.

<sup>16</sup>In the United States, for example, it has been shown that all do not have equal access to or an equal share of energy utilized, Ford Foundation, A Time to Choose. Their study found that energy usage in the U.S. fluctuates considerably according to one's socioeconomic position. Such a finding raises clear questions of "equity" in the implementation of any energy policy which attempts to control usage.

<sup>17</sup>See, Ophuls, The Politics of Scarcity, especially chapter 8.

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## APPENDIX

### A METHODOLOGICAL POSTSCRIPT

At the close of any extended work such as this it is always useful to reflect upon the initial expectations that one held concerning the approach employed to analyze and explore the chosen topic. Our choice to employ a comparative policy approach was premised on the belief that an assessment of the global crisis perspective at this level could add to a fuller understanding of its strengths and limitations, especially if it is to serve, as many of its proponents suggest, as both a framework of analysis and an initiator and director of activities aimed at resolving global issues. In retrospect, we think that this study has met with significant success in this regard.

We must also make mention of some of the serious limitations which we have been subject to in adopting the comparative policy approach, however. The field of comparative public policy, if one may even call it that, has been beset by a continual debate concerning the proper focus and purpose of policy analysis when undertaken in a comparative setting. While all generally agree that "policy" should be the focus, there is a considerable lack of agreement on what activities constitute "policy" and which aspect of policy-making (process, content, impact) should be the central focus, or whether

all aspects must be considered equally.\* There are as well important disputes concerning the purpose of comparative policy studies, with suggestions running the gamut from the "quest for broad systematic theory" to proposals that such studies may only be broadly suggestive.\*\*

In carrying out this study we have made conscious choices on both of these points. This work sought to focus primarily on the goals and contents of policies, because, given our purposes, it was thought that this was a sufficiently wide focus to adequately assess these issues. In the process, however, we found that it was necessary in most cases to include policy outcomes (both intended and unintended) to present an accurate depiction of the relationship between the government's understanding of an issue and the formulation of the policy response. On this basis, if one is concerned with comparing issue perceptions it is quite clear that cross-national policy studies such as these need to consider policies over time, since it is the only proper way to convey the full flavor of the policy context, which is crucial to understanding why states react

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\*For a concise survey of these issues see Richard Rose, "Comparing Public Policy (An Overview)," European Journal of Political Research 1(1973):67-94; and Elliot Feldman, "Comparative Public Policy: Field or Method," Comparative Politics 11(October 1978: 287-305.

\*\*For an argument for the former position see the two Introductions by Stuart S. Nagel and Douglas E. Ashford in Comparing Public Policies, ed. Douglas E. Ashford (Beverly Hills: Sage Publications), pp. 7-16. An example of a study which holds to the latter position is Arnold Heidenheimer, Hugh Heclo, Carolyn Teich Adams, Comparative Public Policy (New York: St. Martin's Press, 1975).



differently to similar world issues.

On the subject of purpose, ours was much less ambitious than would-be theory builders. We have tried, in the manner of other previous comparative policy studies, to present each country's policies as "experiences to be understood rather than events to be counted".\* Thus the kind of understanding we sought was not intended to derive from any scientific basis which would, thereby, enable one to explain and predict future policy behavior in these respective countries in the future. Rather, we have sought to present a contextual and experiential knowledge which is addressed to a wider audience and is likely to be more suggestive than definitive.

In large part this is due to our intention to address this study to an audience which consists of more than just the policy maker and the political scientist. In our view, one of the most serious limitations of policy studies as they have generally been carried out thus far--and one could expand this to most of social science in general--is their narrow limited focus on elite behavior which the focus on "policy" all too often begets. One of the most crucial problems with this approach is that in addressing primarily the policy maker, one may very well be addressing the political actor who is most restricted by the existing structural constraints. This is particularly critical in cases where the resolution of the dilemmas posed by the issues involved, as appears to be the case in

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\*Heidenheimer, Heclo, and Adams, *Ibid.*, Preface.

the issues discussed in this study, requires alternatives to the standard political practices.

Therefore, this study has tried to assess the action potential of the global crisis perspective both to reveal its critical weaknesses in the political realm and to suggest that it needs to address a larger audience than the policy maker, if it is to become a source of mass-based political action. We have suggested that the crucial point in this regard was the type of understanding of these issues and their ecological context which was being presented. Martin Rein, among others, has more extensively addressed this point in one of his works on policy analysis in which he argued that certain types of knowledge may be either confining or liberating, depending on which system of valuation is considered most important to the observer.\* In a similar manner, we have suggested that the global perspective presents an understanding of the world crises--or why things are as they are--which ultimately may inhibit the capacity to act, even though it is inspired by the desire for action. Such an outcome is in large part due to its narrow concern with considerations of survival and its failure to deal frankly with the political and normative issues which its analysis portends.

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\*Social Science and Public Policy (New York: Penguin Books, 1976), especially chapter 7.



